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SALESMEN AND THE PRICE OF GOODS.

THE better teaching of the art of selling goods is a crying need of the times, since the method of many so-called salesmen is simply an attempt at giving goods away. Where the results of salesmanship are gaged by the volume of goods disposed of, the man who cuts prices most wins the record. But by this standard, a child or a fool might prove to be the best salesmen of all, by giving the goods away outright. What reputable manufacturers and merchants want is to be able to sell their goods on their merits for a fair price, regardless of what goods of a poorer quality may bring, or of what others may do in giving away goods. The salesman whose record is something to be proud of is the one who proves himself capable of selling on such a basis as to make the business profitable for his principal and himself, while giving to buyers their money's worth.

These are truisms, of course, and yet the abundance of salesmen of a different type, and the great extent to which goods are sold on too small a margin of profit, would indicate that precisely opposite ideas prevail in the trade. Why has the statement become almost universal, "We are selling goods enough, but the profits are too small"? Why is there such a widespread sense of uneasiness, in the selling of goods in nearly every line, lest some competitor shall discount one's prices while one is asleep? There is a craze for cheapness—not alone among the patrons of the 99-cent counter, but through all grades of buyers up to the jobber who handles the whole product of a factory. A merchant who has been in business for a lifetime will desert a manufacturer from whom he has bought all the while—his own personal friend, even—to buy a trifle cheaper from a competing house. Everywhere the question is, not how good, but how cheap. And while every merchant in a town is shouting through his advertisements that his goods are the cheapest, it is not likely that the total volume of sales in the community is much greater than if every dealer had made it a point to sell nothing except at a fair profit.

The difficulty comes when one asks what is to be done about it. In this free country there is no law to prevent a man from selling goods below cost, if he likes, even if the remnant of his stock has to go under the auction hammer, and his creditors whistle for their money. We have not yet arrived at that point where the public sense of morality holds a man responsible for lack of judgment, even though that lack should lead to the demoralization of trade through his reckless cutting of prices. The question then is, who can stand out against the competition of such incompetents? It seems that somebody in every trade ought to be strong enough to stand for the maintenance of fair prices for good wares. Yet the business men who dare do such a thing are wondrous few.

In what is probably the largest dry-goods house in New York, a head of a department who was being interviewed for THE INDIA RUBBER WORLD with regard to the reduction for the next season's trade on a certain line of goods, said that some small producers had cut prices, that others

were sure to follow, and that it would not do for his store to handle goods that anybody could undersell. The house was not bound to any one manufacturer, he said, but was free to buy wherever goods could be had most cheaply. Now if the biggest house in the trade cannot afford to say that it *is* bound to a certain good manufacturer, that it believes in his goods, that it will continue to sell them, with the idea of making a reputation for them as a line possessing real merit and worth the money charged for them—if such a house cannot assume this position, what can be expected of concerns more recently started, with less capital, and under the necessity of catching every wind that blows to carry their business forward?

Under such conditions the individual salesmen, working each for himself, cannot be expected to reform the trade, by offering samples at fixed prices and declining to discount them for any consideration. But no doubt the salesmen in too many cases are left to bear the blame for cutting prices. It ought to be considered a confession of weakness for the heads of a business to say that it is their hired salesmen and not themselves who make the policy of their house. There probably are salesmen in every line who play havoc with prices, as the only means known to them for meeting competition in the selling of goods, but if their compensation were taken into account they might be found to be earning all the pay that they get. Evidently, if prices are to be maintained in any line at a fair—which is the same as saying an honest—standard, the houses of recognized standing must first determine upon such a course and become responsible for its maintenance, instead of putting the matter into the hands of their salesmen, winking at the allowance of an extra discount here and there, and disclaiming all responsibility when prices go to pieces. One other consideration is that a salesman who is worth paying at all is worth paying well.

IF THE SIZE OF PROFITS be taken as the criterion for the condition of trade, doubtless we shall continue to be told that the times are dull, in spite of the undisputed activity of factories in many lines and a volume of business as great as in any former period. But every established line of industry doubtless has outgrown the period of its greatest rate of profits, and manufacturers must be content henceforward to expand their product while the percentage of profits gradually tends downward. In the development of a new line of business people sometimes make money seemingly by accident, but unusual profits attract competitors until the condition of the trade calls for careful management and the practice of every possible economy in order to put anything on the right side of the balance-sheet, no matter how great may be the demand for the goods handled. The moral is that the preparation requisite for a business career in America must become more and more thorough, after the practice in European countries.

THE RAILROAD-MEN'S SAY on the subject of air-brake hose has been more interesting than instructive, particularly since it must be plain that the way is as open for them to become acquainted with the quality of the rubber supplies which they need as it is in regard to steel or any other materials in use. To assume that rubber-manufacturers will not readily place themselves in a position to allow the railroad companies to buy intelligently is to set the whole class down as a dishonest set, and this, we are certain, the members of the Western Railway Club would not mean to imply. In another part of this issue of THE INDIA RUBBER WORLD are some remarks by leading manufacturers on the requirements in railway-hose, in answer to recent criticisms.

IT IS GENERALLY UNDERSTOOD that the ramifications of the India-rubber business are practically without limit, but the New York *Evening Post* has recorded something entirely new in this connection—"a man in this city actually engaged in the rubber trade, also carrying on a large business in copying old sermons and sending them to all parts of the Union, to be delivered as the recipients' own composition." Possibly, however, this sermon-monger was not "actually engaged in the rubber trade," but only in writing news of that trade for the daily newspapers, which involves a very wide difference.

DEATH OF CHARLES GOODYEAR.

CHARLES GOODYEAR eldest son of the late Charles Goodyear, famous as the inventor of the process of vulcanizing India-rubber, died May 23 at his home, 20 West Eighty-fourth street, New York, of pneumonia. He had been dangerously ill only for a few days, but for several years he had been in poor health. Mr. Goodyear came of a family of inventors. His grandfather, Amasa Goodyear, first devised the idea of making hay-forks of spring steel instead of wrought iron; his father spent a lifetime in devising a method for vulcanizing and developing India-rubber, and he himself was known as the inventor of the Goodyear shoe machinery.

He was born in 1833. At that time a craze for India-rubber dealing spread over the country like the gold fever and the petroleum craze in later days. His father began his experiments when Charles Goodyear was only a year old, and from that time until his father succeeded in perfecting his plans the family moved from place to place, at times almost penniless. For some years before his father's death, in 1860, young Goodyear was called on to take charge of the interests of the rubber business. After his father's death he set to work on his plans for shoemaking machinery. These ideas were at last successful and resulted in the establishment of a number of firms employing thousands of hands.

Mr. Goodyear himself was for many years president of the Goodyear Shoe Machinery Company, whose offices are at 243 Broadway. There is also in existence a Goodyear Shoe Machinery Company of Canada, and an International Goodyear Shoe Machinery Company. Mr. Goodyear leaves a wife and seven adult children. Two of his sons are now in New York and a third is studying architecture in Paris. Funeral services were held in New York at his late residence. The burial was at New Haven, Conn.

* * *

DR. ELLIS B. TAFT, aged 84 years, died recently at his home in Worcester, Mass., after a long illness from spinal disease. Dr. Taft was a dentist, but gave up his practice many years ago to engage in other business. He was employed for some years as a selling agent for the Woonsocket Rubber Co. and was located at Boston. Later he went into the wholesale boot and shoe trade in Boston, from which he retired several years ago. He was a member of a Boston lodge of Masons and of the lodge of Odd Fellows of Uxbridge. He leaves a widow and one daughter, Miss Helen W. Taft of Worcester; also one brother in Chicago.

TALKS WITH RUBBER-MEN ON AIR-BRAKE HOSE.

IT might reasonably be inferred, from the recent discussions in the Western Railway Club, on the subject of air brake hose, that the railway men consider themselves as wholly in the dark when buying their rubber supplies. One member of the club, Mr. George Gibbs, was reported in the last INDIA RUBBER WORLD as having said:

> There seems to be absolutely no definite information obtainable in published accounts as to the methods of manufacture of hose, its composition, and the service to be expected of it. I hope this discussion will bring out a paper from some rubber-manufacturer, giving details as to the make-up of various kinds of rubber hose, and the influence of quality and manufacturing methods upon its life in use. It is possible there are trade secrets involved in the manufacturing processes, but it seems to me the rubber-manufacturers are equally interested with us in bringing out a full discussion of the discussions met with in use. We are doing our part by telling what the defects are; they, on their part, should help us by telling us what the inherent weaknesses of the article are, and how we may avoid the use of inferior qualities which may perhaps cause us serious expense in the directions, for example, pointed out in this discussion. There seems to be no standard of quality to measure hose by, and no test which you can make in a laboratory or in a shop which will give any approximation to the probable life of a hose.

Commenting upon these remarks, the president of a concern engaged largely in the manufacture of railway hose said that Mr. Gibbs and his company need not be in the dark in buying rubber goods any more than in the buying of any other class of railway supplies.

"There are certain secrets," he continued, "in every line of manufacture, which it would not be wise to make public. But my own company—and I believe that the same is true of every other reputable rubber concern—would readily admit to its factory any properly accredited representative of a railway who came in good faith to study the methods of manufacture of air-brake hose so far as would be necessary to enable him to judge intelligently of the various grades, and to understand the tests by which a good article can be distinguished from a poor one. There is no need for any purchasing-agent or other official of a railway responsible for the quality of its equipment to remain uninformed of the requisites of good air-brake hose or of the details of manufacture required to bring hose up to any desired standard, or of the tests for determining whether or not any article of hose is what it is represented to be. We should not care to make public information which might be turned to profit by some competitor, but any prospective purchaser is entitled to know such details in order that he may be able to buy intelligently. I have read the proceedings of the Chicago club on this question, and I cannot understand the tenor of their expressions in any other light than that of their disposition to talk merely to fill up the time allotted for their regular meetings."

* * *

ANOTHER manufacturer said, apropos of the discussions of the railway-men on air-brake hose, that the character of such goods depended both upon the quality of the India-rubber and duck used, and upon the method by which they are combined in manufacture. It is in the latter detail that the secret of the trade lies. The best of materials are not alone sufficient for the production of first-class hose. There are no longer any patents of value bearing upon the manufacture of air-hose, and the manufacturer who has succeeded in producing a high grade of goods will naturally guard the secret of putting the rubber on the duck. Not even the nature of the rubber compounds is so closely guarded, since there are now in the trade so many men capable of making good compounds.

The railway men talked as if the strength of the hose was the one great requisite, but almost any hose in the market will withstand an initial test ten times as great as any strain put upon it in ordinary use. The strength of railway hose, and of all other hose, bicycle-tires included, is not in the rubber, but in the duck used, and four or five plies of almost any duck has all the strength needed for air-brake hose. But it is durability—wearing quality—that is needed, and the conditions which lead to the deterioration of hose deserve especial study.

The rubber will deteriorate more rapidly than its normal conditions warrant if too great a use is made of substitute, or if too great an admixture of mineral substances is employed to give the required bulk. Both these classes of materials have been used in order to produce lower-priced goods than are possible with the proper amount of good rubber. Now substitutes can be used to good advantage in some branches of rubber-manufacture, but not in connection with fabrics, which form so important a feature in the making of air-brake hose. The use of substitute hastens the oxidation of the rubber, which causes a loss of its adhering quality and consequent separation from the fabric.

Another cause of the deterioration of hose is the granulation, so to speak, of the rubber from being bent often back and forth at any given point, but the wear or chafing of rubber from friction is the least of the causes affecting the life of hose. The life of the duck is longer than that of the rubber, since, in properly-made hose, the cotton is wholly protected from moisture and atmospheric influences. An exception to this statement might be made in the case of the use of hose without capped ends, as where the hose is bought in long sections and cut into lengths by the purchaser.

The chafing test, which is in use on one important railway near New York, this manufacturer said, is of little value in judging of the quality of hose, for the reason that the conditions of actual use do not exist in applying this test. As for the ordinary tests, for strength, the poorest hose might pass, for the reason already explained with reference to the duck.

A special feature in the discussion at Chicago related to the bursting of hose at the point of kinking. Mr. A. M. Waitt exhibited a length of hose badly kinked in two

places, which had burst in use at a point between the kinks, and he had cut open the hose to show that no connection existed between the kinked places and the point at which the hose finally gave way. But he evidently had made only one longitudinal slit in the hose, whereas, if he had stripped all the plies apart he would have found that somewhere the separation of the rubber and fabric had begun at one of the kinked places and spread until the spot was reached at which the hose burst. This separation could have existed without its being visible from a single slit made with the knife. With respect to the use of the dummy-coupling, for holding up unconnected lengths of hose, which was discussed by the club, undoubtedly it is more desirable to have the hose confined in place, as nearly as possible in the same position as when the hose is in use. This is not always attained, because of the careless or improper placing of the dummy-coupling in most cases. Another point discussed was the weakest point of the hose, one speaker reciting his experience to show that it is nearly always near the pipe fitting. The reason for this is plain. The couplings are attached, not by the manufacturers of the apparatus, but by mechanics in the railway-shops, all of whom are not as careful in this work as the character of the materials used requires.

* * *

"IT is a mistake to keep air-brake hose in use until it wears out, as is still the practice on some railways," said a manufacturer. "The only really safe plan, which is the same thing as saying that it is the most economical plan, is for the management of each road to maintain a rigid inspection with a view to removing all hose that has been used for a certain length of time—say three years in the passenger service and two years in the freight service. No matter how well the hose may look, this rejection should be made, for the simple reason that the best hose, after a certain time, is liable to give way, and at a most inopportune moment. This practice has been introduced on the Pennsylvania railroad, and with very marked results. I am informed that before the practice was adopted, 26 per cent. of all train detentions were attributed to failures of air-hose. Now that accidents are no longer courted by working the hose overtime, as it were, the percentage of detentions from this cause has become quite low—practically nothing."

The assertion was made by one rubber-man that wire-bound hose, no matter for what reason it is recommended, is designed really to prevent kinking, since the wire is not needed to give strength to hose in which a proper quantity of duck is used.

On European railways the use of air-brake hose is relatively smaller than in America, but the wear from chafing is greater. This is because the hose is generally covered with fabric. Another reason why the air-brake hose used abroad does not last so long as here is that linen is used instead of cotton duck, and this deteriorates more rapidly.

* * *

THE superintendent in a factory where considerable air-brake hose is manufactured writes:

"In the article by Mr. A. M. Waitt in a recent issue of THE INDIA RUBBER WORLD, he argues that air-brake hose is not injured by being kinked. I think he is in error on that point, at least so far as my own observation has gone. It has been my experience, and I think that all practical rubber-men will bear me out in my assertion, that any piece of hose will crack and be weakened by kinking, such as it receives from careless handling. Hose depends upon the fabric for its strength. Kinking separates the plies and it is then liable to burst at any time, not necessarily at the point where it was kinked, but the air works its way between the plies and is liable to come through anywhere in the section. Kinking also causes cracks in the cover, and when this occurs the rain and snow work their way into the fabric, which absorbs it readily, to the result soon is another piece of bursted hose. Air-brake hose should be made so that it cannot be kinked; then I think the railway companies would have a great deal less trouble with it and fewer wrecks. The first cost would be perhaps a trifle more, but considering everything it would be cheaper in the end. The result can be attained by using lighter fabric and increasing the number of plies from four to seven or eight. Conclusive tests have shown that hose made like this is much stronger than that made in the regular way. The fabric should be frictioned and then coated with a very light skin of rubber, enabling the plies to adhere with greater tenacity. Another way is this: Put on the tube in the regular way, then add two plies of fabric and cover with a light coat of rubber. Then take strong light steel wire and wind on this cover, the coils being about ½ inch apart. Put on the remaining two plies of fabric and the regular cover on this such as is ordinarily used. Here you have a hose which cannot be kinked and which has additional strength by reason of the steel wire, which being between the plies cannot rust or become broken, as is the case with hose wired on the outside. To overcome the objection urged by Mr. Waitt of the tube being cut by the connections, I would suggest that there could be a ply of fabric frictioned and placed in each end of the hose for about four inches, so as to have the fabric between the connection and the rubber tube. With regard to dating and branding air-brake hose, the brands should be put on in such a way that they could not be rubbed or peeled off as can be done when put on in the ordinary way. The proper way is to have the brands made of tin or aluminum and cover them with unvulcanized red rubber and then cure. The result will be a perfect brand and one that can be seen as long as there is anything left of the cover."

WHY RUBBER TUBING BECOMES BRITTLE.

SOMETIMES even the best of rubber tubing becomes brittle and has a tendency to break. It does not necessarily betoken an inferior article. The conditions causing the change have not, to my knowledge, been thoroughly examined, but the best and most elastic tubing will be found to gradually part with its elasticity, a change due, it has been said, to the formation of sulphuric acid by the action of moist air on the sulphur of the compound. It can be avoided by occasionally placing the tubes in a slightly alkaline solution and leaving them over night.—*National Bottlers' Gazette.*

STYLES AND PRICES IN THE MACKINTOSH TRADE.

THERE is little promise so far of novelty in styles in waterproof clothing for the fall and winter trade, for which the manufacturers are now making active preparations. While it is not usual for orders for winter to come forward in large volume before the first of August, the work of making up the supplies for the season's trade must be well under way before the rush of orders begins. It is the policy of some manufacturers to be chary of showing their new styles except to possible buyers, lest their ideas should be appropriated by competitors, but it is safe to say that the most carefully guarded secrets of this kind become speedily known to any competitor who really cares to become possessed of them. It is not probable, therefore, that any surprises are in store in mackintosh shapes. By the way, when new styles in such goods do become popular, it is apt to be by slow degrees, partly for the reason that the greater number of wearers do not buy a new mackintosh every year.

In men's garments the trade for the coming season will be divided, as heretofore, between cape and box coats, with only a slight demand for the Inverness style. There will be the usual choice of colors—black, blue, brown, and dark gray—and the same range of cloths, from plain cotton diagonals to the best serges, costing the wearer six or seven times as much. But there is probably a growing preference for velvet collars, on account of their giving a somewhat more dressy appearance to what is oftener than otherwise a plain, if not a somber-looking, garment.

In women's garments there is not only room for greater variety at any given time, but the probability of more marked changes from season to season. Just now the manufacturers of garments for fashionable demand are cutting both capes and skirts with very full sweep. Leading New York stores have been canvassed lately with a line of samples including capes with a sweep ranging from 140 to 200 inches. The introduction of wide sleeves and full skirts in ladies' costumes rendered useless many waterproof garments on hand at the time, just as the early decline of the present fashion would make the mackintoshes bought now seem unreasonably spacious and heavy. There are hints from Paris that this decline has begun already; at any rate, it will be a wise manufacturer who knows at what point to stop widening the sweep of waterproof capes. The amount of material now being put into these garments has tended to decrease the demand for double capes, in the interest of light weight, and especially for spring and autumn wear. Then there is a class of buyers who select the single cape through motives of economy. But nobody buys more than two capes. Velvet collars are included with all the better grades of garments.

As to the demand for golf-capes, the reports vary. But a leading manufacturer asserts that, although last year's business in these was heavy, there are indications this season of a still greater demand. In some of the dry-goods stores there are evidences of a good demand for golf-capes. There has been brought out lately, with an encouraging reception, what is called a ladies' mackintosh golfing suit, consisting of a cape and skirt, which can be worn together or separately, as desired, affording ample protection. The cape is made large and full, allowing free use of the arms. The skirt is open down one side, and buttons with a large flap, fully covering the dress-skirt. It can be made of any material adapted to the manufacture of waterproof clothing.

There has been a revival in the demand for cravenette goods, though not to the extent of displacing mackintoshes, since the two can hardly be said to come into competition. The former are unsuited for winter use, or for withstanding much rain at any time; but for use in travel, or for outing purposes, the wrap which ladies would carry in any event has an additional advantage from being at least moderately waterproof. Here a place exists for the cravenette goods, though there are manufacturers of mackintoshes who claim that their products are no heavier than the cravenette wraps, while they are more reliably waterproof. The manufacture of cravenette garments has been taken up extensively this year by a large rubber concern not heretofore engaged in this trade, and some large stores which have been handling only imported cravenette garments are thinking of taking up the American-made goods instead. There is no domestic substitute, however, for the foreign-made cravenette fabrics. Some of the new garments in this line are handsomely gotten up, of unusually attractive materials, linings included, and will be offered at retail as high as $25.

Prices of mackintoshes show no improvement, from the manufacturers' point of view. A wholesale dealer, referring to a printed price-list of the goods which he had in stock a year ago, said that the cotton diagonal garments sold then to the trade at $2.75 would be offered this year at $2.25. The price of such garments at retail then was about $5; this year it would be proportionately less. A corresponding decline would be shown in the other items throughout the list.

"Why do you make this cut?" the dealer was asked.

"Because some manufacturers have been accepting orders at prices below the basis of last year's business, and, although they are the smaller concerns in the trade, the effect will be to lower prices all around. We do not feel permanently bound to any manufacturer, but free to buy wherever we can get our orders filled satisfactorily for the least money, and we must come into the market this season with goods that cannot be undersold by anything of equal quality."

The great bulk of the trade in waterproof garments continues to be in the cheaper grades, as is the case with every other class of clothing. It seems particularly true of mackintoshes, however. For instance, shop-girls, who are obliged to go to their work regardless of the weather, must be provided with waterproof wraps, and their incomes as a rule do not permit of the purchase of anything expensive. On the other hand, ladies who are able to buy the higher-priced goods can manage usually to avoid exposure to inclement weather, and thus are not compelled to have mackintoshes. In certain parts of the country men's mackintoshes still serve the purpose of overcoats with many wearers, in wet and dry weather alike, and the demand from this class of buyers is for a cheap line of goods.

A large house on Broadway, in New York, whose advertisement in the dry-goods journals makes prominent mention of a "mackintosh department," was visited by an INDIA RUBBER WORLD man in search of facts on the importance of the wholesale dry-goods trade as a channel for the sale of waterproof garments. Extravagant statements were made as to the extent of their sales of mackintoshes and rubber clothing, and the stocks carried. Later a call was made upon a jobber known to handle from $125,000 to $150,000 worth of waterproof clothing per year, but who reports the value of stocks carried at not more than half the value claimed by the dry-goods house, although his visible supply of goods seemed several times as great in bulk. It was finally learned from a trustworthy source that

the dry-goods house in question disposed of perhaps a few thousand dollars worth of mackintoshes in a year. But other dry-goods houses as a rule do even less, only keeping on hand sample garments, and sending such orders as reach them to the factories. There is one wholesale dry-goods house in New York, however, whose claims agree with the manufacturers' reports concerning it. They order 5000 each of standard sizes of garments, and keep a considerable stock, as an order from a retailer out of town sometimes includes 100 to 200 garments of a single style. While the facts as to the wholesale dry-goods trade are as stated, the retail dry-goods houses and the clothing stores handle large quantities of waterproof goods, being supplied either direct from the factories or through jobbers.

When asked about his experience with foreign mackintoshes, the wholesale dealer last mentioned said that a member of his house who was abroad about the time of the last reduction of the tariff thought that it might be a good thing to bring over some mackintoshes from Manchester. The result was a loss of about $1500 on an invoice of $3000, and they did not repeat the experiment. The trouble with the imported garments was not so much in the vulcanization of the goods as in the failure of the foreign manufacturers to satisfy the tastes of American buyers as to styles. The mackintosh trade here is now practically in the hands of American manufacturers, with regard not only to the making up of the garments, but also as to the making of the fabrics used. The so called imported mackintoshes are said for the most part to be made up here from imported cloths. The same dealer said further that the trade of his house in cravenette garments had increased because of the cheapening of the goods, since garments formerly selling at $12, for instance, could now be offered at $8. The reduction in the tariff on cravenettes—classified as "woolen dress goods"—could not have contributed more than $1 or $1.50 to this decline.

With regard to the condition of the mackintosh trade in general, it cannot be said to be of as great volume, either at present or in prospect, as manufacturers and jobbers had anticipated.

THE MANUFACTURE OF FABRICS FOR TIRES.

UPON the evolution of a suitable fabric for pneumatic tires depended the perfection of the bicycle more than upon any other single feature. The merits of India-rubber for confining the air and for affording elasticity were plain; the difficulty lay in securing the proper elements of strength. In the manufacture of the first pneumatic tires more attention was paid to methods of construction than to the quality of the fabrics. Besides, the test of time was needed to teach the tire-makers the shortcomings of all the fabrics then obtainable. The preference was given to linen, on account of its supposed strength and durability, and cotton duck was also used, but both materials proved a source of disappointment, and, in some cases, a costly one.

"There was one firm," a member of the trade said lately to the writer, "who embarked early in the manufacture of bicycle-tires under circumstances which promised to put them and keep them at the head of the trade, but they persisted in the use of cotton duck after its disadvantages had become plain to some of their competitors, with the result that their tire business is now comparatively unimportant. Another firm, just as they were beginning operations on a large scale, were solicited to try a certain grade of cotton goods. But they said: 'No; we have 150 or 200 cases of linen on the way from Europe, and that is good enough for us.' Later they probably regretted that the whole cargo had not sunk in the ocean, for even now they have hardly finished replacing the tires in which that linen was used."

Linen, by the way, is a most treacherous fabric, as was illustrated by the experience of a certain New York mercantile house. They once wrote to their agents abroad for some of the best linen to be had, without regard to price, to be made into shirts for a present to their larger customers. The linen which came was apparently of the best quality, but when it was made up and put into use it began to give way after the second washing. This is quoted in the trade as showing the unreliability of linen, even in the hands of experts. Its chief fault from the standpoint of the tire-maker is its uneven strength, threads lying side by side in the same piece of cloth comparing as 3 to 10, whereas cotton fabrics are now produced with threads practically of uniform strength. Another drawback to the use of linen for tires was soon found to lie in the destructive effect upon it of the vulcanizing process—a trouble not experienced in the use of a good quality of cotton.

But cotton duck also had its limitations. The first trouble was that this fabric, as woven four or five years ago, was composed of longer threads in the warp than in the weft, or filling, in consequence of which the strain upon a tire in use fell wholly upon the weft threads, rendering the tire only one-half as strong as if the threads in both directions had been of equal length and equally subjected to pressure. To remedy this defect, weavers began to give the filling threads the same "crimp" as in the warp, so that both would have the same length in a piece of goods perfectly square. There were other objections to cotton duck, however. One was the liability of threads to break on account of the presence of dirt or foreign substances in the cotton, causing unevenness in spinning or weaving, and wherever there is a break in a pneumatic-tire fabric, of even a single thread, the starting-point of trouble may be looked for. It was also found to be desirable to have a fabric of greater tensile strength in proportion to the weight of the goods.

The solution of the problem as to materials was finally reached through the wide adoption of sea island cotton. This is a distinct variety, having a longer fiber than any other, which alone renders it stronger in proportion to weight than cotton of short fiber. It is claimed to possess superior strength apart from its longer fiber, and also to have greater strength when grown in certain districts. By means of careful selection of the raw cotton, combined with improved methods of manufacture, tire-fabrics are now produced which have a strength, compared with ordinary duck of equal weight, indicated by the ratio of 105 to 50.

The treatment of the cotton by the fabric-manufacturer begins with carding it, by which particles of the cotton-plant, dirt, sand, etc., are removed, together with enough adherent lint to make the waste salable as paper-stock at about $10 per ton. Next is the combing, to remove all fibers shorter than the standard of length desired by the manufacturer for the particular class of goods to be produced. The waste from this process is salable at about 4½ cents per pound, although the price paid for the whole bale may have been 17 or 18 cents per pound. There remains of the original weight of the bale perhaps not over 70 per cent. available for use for the better tire trade—the longest fibers, from selected cotton, freed from impurities. Then by the repeated "drawing" and "doubling" of the "slivers" from cords, all the fibers which may be lying in a bent or crossed direction are placed parallel with each other, with the effect of reducing to a minimum any irregularity in

weight or thickness. Thus are obtained the strongest yarns and the greatest possible uniformity in other respects. In a mill visited by the writer, where tire-fabrics are produced, the continued combining of several slivers from the cards into one "end" is repeated until the number of "doublings" reaches nearly a million, before a single thread has been spun. Then comes the spinning, the last process of which is the twisting together of from two to seven strands into one thread, whence the designation of "two-ply" thread, "three-ply," etc.

The weaving of tire-fabrics has given rise to very much study. The fabric-man has been consulted assiduously by the tire-manufacturer, and deserves a prominent place in the history of the development of this industry. It may be truly said that the initiative in the improvements which have been made have been due oftener to the weavers of fabrics and the designers of looms for this purpose than to definite demands from the tire trade for new and better things. It might naturally have been supposed that the making of tires would grow up in connection with the fabric looms. Indeed, some tires were manufactured in one cotton-mill, but the proprietors soon concluded that it might be wiser to enter the market for supplying rubber-men generally with fabrics than to antagonize all of them by dabbling in the use of rubber, and the latter was given up.

There is nothing else used in bicycle-construction in such great variety as tire-fabrics. A single firm are weaving or have woven 700 different grades of these goods. They are to-day supplying tire-makers regularly with forty or more different grades—suited to heavy and light tires, single-tube, inner-tube, and detachable tires, woven straight or on the bias, from two-ply thread up to seven-ply, with "long center" or without, and with other variations to suit the special wants of inventors and experimenters. Many of the different weaves of fabrics are protected by patents, and other patents are now pending, which tend to keep the business for the present in a few hands. What would be the result of litigation over these patents can only be conjectured. Lately the patentee of a widely-advertised tire, the alleged novelty of which lay in the fabric, applied in the courts for an injunction against another manufacturer, preliminary to a suit for infringement, and, after arguments were heard on the question of novelty, the application was denied. In this case there is no use of a woven fabric, but the threads of the warp, so to speak, first imbedded in rubber, are wrapped about the tire diagonally over the threads of the weft, similarly covered with rubber and the whole is vulcanized.

The prime requisite of a tire-fabric is that all the threads composing it shall be subjected in use to equal strains, and this involves the proper conformation of the tire to the wheel. This requirement has led to ingenious devices in connection with looms. The principal claim in the specifications for one patent for weaving a tire-fabric reads: "The fabric is not only tubular"—as in the case of the ordinary woven hose—"but it is woven with one side of the tube much longer than the other side, so that the tubular fabric assumes a circular form corresponding to the wheel to which it is to be applied." There are advantages, too technical to be detailed here, in a diagonal or bias construction of the tire, which may be attained either by weaving the fabric in this shape or by the method of applying the square weave. There are reasons, likewise not easily described in a brief space, why a tire which might run satisfactorily in a straight line might not withstand a sudden turn in the road, and scores and scores of other considerations will be pointed out by the fabric-manufacturer to the intending producer of tires, all of which may not safely be ignored. But there is one point which does not admit of a difference of opinion—no treatment of fabrics, short of reinforcing them with solid substances, will render them proof against punctures.

No fear is felt in the trade of a falling-off in the supply of sea-island cotton. The production for the last crop-year was reported at 90,000 bales (of 400 pounds), while only eight years back less than 40,000 bales were produced. This crop is no longer confined to the small islands off the coast of Georgia and the Carolinas, but is grown on the mainland over a constantly-widening area, though from seed annually secured from the islands. The estimates of the share of last year's crop required for bicycle-tires range from 7 to 10 per cent. The highest estimate would give 3,600,000 pounds of sea-island cotton used for tires, at a cost to the spinners, supposing the price to be 18 cents, of $648,000. The fabric-manufacturers are unable to calculate from their sales the number of tires made, since the quantity of material required by different styles of tires varies. But they are among the most optimistic prophets in regard to this year's production of bicycles that the writer has met.

GUTTA-PERCHA WATER PIPES.

By J. H. Morrison.

PRIOR to the introduction of Croton water on Blackwell's island, N. Y., they were compelled to rely on the local supply obtained from the wells and cisterns for the use of the institutions, but in 1850 a contract was made with the American Gutta-Percha Company for a Gutta-percha pipe, to run from the foot of 79th street to Blackwell's island. The American Gutta-Percha Company, by the way, was established in 1848 and later merged into the present Bishop Gutta-Percha Company.

The Gutta-percha pipes spoken of were three inches outside diameter and ⅜ inches thick, made in lengths of 9 feet each. They were joined together by having the end of one length pointed off and partially roughened on its surface with a hot rasp while the end of another length was made flexible by being heated in hot water, then opened by the hand, carefully dried and closed around the other.

For the purpose of anchoring the pipe on the bed of the river, there were collars of Gutta-percha ¾ inches thick and 4 inches in length placed about 9 feet apart for the length of the submerged pipe. Over these collars, cast-iron anchors made in two pieces with four ribs, bolted together, and weighing twenty-eight pounds each, were placed.

At the point selected for laying the pipe the channel is about 900 feet wide, and the depth of water varies from 55 to 75 feet; the bed of the stream falling off boldly and attaining the former depth within a short distance of either shore. The ledges of the rocky bottom run in a line with the flow of the tide and are very uneven and abrupt in their rise and fall.

The first pipe was inferior in strength to that guaranteed by the contract which warranted it to sustain a pressure of 300 pounds to the square inch. It was found to be unable to bear more than 180 pounds. This was due to the mode of manufacture. The confidence of the engineer in the strength of the *material* itself was not at all impaired by the tests made, but, on the contrary, was increased. The manufacturers here proposed that if the condemned pipe could be laid down for six months no charge should be made for it, and they would bind themselves to produce before the expiration of that period, pipe

without a seam and of double the strength required by the contract. The proposition of the manufacturers was accepted. The work of laying the pipe could only be done during the few minutes of comparatively slack-water, the extraordinary tide making work impossible at other times.

The slack-water varies here from one minute to seven minutes, and the interval between the tides, including the slack, when from comparative cessation of current work can be prosecuted at all, varies from five to twenty minutes. During this time the pipe was to be run across the river from shore to shore; anchors for sinking and holding in its bed put on every joint, lowering lines attached from the several boats, and the pipe lowered to its place by movements so graduated that the whole line of it, conforming to the profile of the bottom, should reach its bed at the same moment. This method of lowering was adopted to secure an object considered of vital importance—perfect and continuous contact with the bottom, considered necessary in order to prevent the high projecting points of the rock from chafing the pipe by the vibratory action of the tide. A line of twelve large yawl boats was stretched across the river and held by stem and stern anchors at certain points. Thirteen other boats were stationed near the shore, the men ready to pull to their respective posts as soon as the order was given. Each of these 25 boats was provided with an anchor to attach to the pipe, with a strap to hold the pipe during this operation, and a lowering line to let it down in its place. Six other boats with all the rest of the anchoring weights divided among them lay also in shore ready for orders. The pipe in one continuous length of 1100 feet was ready on the Blackwell's island shore, and a coil of rope, one end of which was attached to it, placed in a well-manned and swift boat. As soon as the tide would permit the crossing, this boat started for the opposite shore. As the boat struck the opposite shore the rope she carried was manned by a gang of men, and the pipe was rapidly drawn across the river. Meanwhile the waiting boats had taken their respective stations, so that the moment the pipe was stretched on the surface of the river, the straps were passed around it to suspend it to the 25 boats in line, all the anchors put on the lowering lines attached, the straps again cast off and the pipe lowered to its bed by two separate movements—the first to bring it in a line of suspension conforming to the bottom of the river, the second, to lay it upon every point of its bed at the same time. From the moment when the first boat started from the island until the work was finished was 17 minutes. During this time, beside the other necessary work about one hundred anchors were attached to the pipe. Apparently the work was thoroughly performed, and had it not been for an untoward accident it would have been. A large vessel disregarding the signals and sentinels which had been placed to prevent all craft from taking this channel, bore directly across the line at the moment when the men were engaged in attaching the anchors, greatly endangering the lives of those in its course. The result was some confusion and the consequent failure of one of the men to put on all the anchors at his station. This was not known at the time—the tide was making rapidly and the order was given to lower.

The pipe performed its work very well until the following June, when failing to supply the island with water, it was taken up to ascertain the cause of failure. It was found at the point above mentioned several anchors had been omitted, leaving nearly fifty feet of the pipe subject to the vibratory action of the tide. The constant abrasion against the sharp rocks at the bottom, consequent upon this, had chafed the pipe through at one or two points in the space thus unprotected. Except at these points it was comparatively uninjured. The rest of the pipe was now subjected to tests and found to have undergone no perceptible chemical change.

The improvements during the winter in the machinery for making it had by no means equalled the engagements of the manufacturers. They had not succeeded in making it without a seam, and the pipe now presented for trial, although somewhat stronger than that which was first made, was much too weak to bear the pressure specified in the original contract. Still the first pipe had borne all the pressure to which it would be subjected in that position, and the peculiarities of the locality seemed to urge the adoption of the same material again.

This second line of pipe was put in place on the 26th of September, 1851. To avoid a repetition of the accident already noted, the pipe was put together in a continuous length, attached to a line of large boats stretched down the stream and along the shore of Blackwell's island. These boats were stationed at such intervals that the slack of the pipe between them properly graduated would conform to the inequalities of the bottom in the line of the destined position of the pipe, the boats themselves being kept in position by being made fast to a hawser 1150 feet long, drawn taut between heavy anchors at the ends of it. The anchors at the upper end were at the point at which the pipe was intended to connect with the island. The anchors to hold the piped own were now put on thoroughly, the workmen not being subject to the strength of the tide or danger from sailing craft. As a further precaution against abrasion both the number and weight of the anchors were increased. Those now put on were but five feet apart instead of nine feet, and the weight of each anchor increased to 34 pounds. The line being thus prepared, a steam tow boat was made fast to the hawser at a distance from its upper end equivalent to the width of the river. Just before the slack of the flood tide the lower end of the hawser was cut loose, the end taken on board the steamboat and the movement across the river commenced. The hawser was kept taut by the power of the steamboat, and the whole line swung around until it reached across the river to the New York shore. When the steamboat was sufficiently near the proper point the bight of the hawser was run ashore, slipped into a large snatch-block and the hawser drawn taut, bringing the boats up in a perfectly straight line. From the bows of this line of boats the pipe now hung immediately over its destined bed. The line which suspended it to each boat passed over a chopping block—a man stood by with a hatchet, and when the word was given a single blow from each man let the pipe drop to its place. The first attempt to put down the pipe in this manner failed, but at the slack of the flood tide next day the work was successful. Gutta-percha pipes were found to have disadvantages due to flexibility and lightness, in that they were liable to serious injury from fouling by anchors of vessels, as was found soon after the first pipe was laid.

There were subsequently two similar pipes laid to the island for the water service, where they remained until about 1868 when one of wrought-iron was substituted. One was also laid to Randall's island for the service of Croton water.

In 1853 Gutta-percha pipes were tried by the Quebec Water Company of Quebec, Canada. They sustained a pressure of 105 pounds to the square inch without injury, while the brass couplings gave way under that pressure. At a later period a small pipe of ¾ inch internal diameter used for a service pipe on the Cochituate Aqueduct of the Boston Water Works, sustained a pressure of 580 pounds to the square inch. There is no record where these pipes were made. At the New York electric-light exhibition in May, a piece of the first Gutta-Percha laid to Blackwell's Island was exhibited by the Bishop Gutta-Percha Co.

BRIEF ABSTRACTS OF RECENT RUBBER PATENTS.

AMONG recent patents issued by the United States Patent Office, embodying applications of India-rubber or Guttapercha to a greater or less extent, have been the following. It is not practicable here to do more than to note the use of rubber in each case, with sufficient detail to enable those who are interested to decide whether or not to look into any particular patent more fully:

TIRES.

No. 557,709.—Puncture-proof Tire. Abram L. Smith, Brooklyn, N. Y., assignor by mesne assignments, to the Long Island Rubber and Cycle Company.

In a pneumatic tire, a puncture-proof structure consisting of a filling of puncture-proof material placed inside of the tire and against the tread, in combination with a flat metal band placed against the filling and having a longitudinal rib extending into the filling for the purpose of preventing lateral movement of the band.

No. 557,851.—Method of Repairing Pneumatic Tires. Pierre Mercier, Paris, France, assignor, by mesne assignments, to the New York Bicycle Equipment Company, of New York.

The method of repairing punctures in pneumatic tires, by introducing temporarily into the puncture a funnel-shaped tube, passing through this tube to the interior of the tire a flat adhesive disk or diaphragm, removing the tube and allowing the edges of the puncture to come together, and applying the disk or diaphragm over the puncture.

No. 557,970.—Pneumatic Tire. Emil Christiansen, Leavenworth, Kans., assignor of one-tenth to Edward C Fritsche, same place.

A tire, consisting of a resilient tube, having its outer portion thickened to form a cushion curved in cross-section and capable of being flattened upon the application of pressure, and a series of springs inclosed by the tube arranged part on each side of the center of the cushion, this center being farther from the outer ends of the springs than the sides of the cushion.

No. 558,132.—Tire. Bruno Weber, Chicago, Ill., assignor to the Pope Manufacturing Company, Portland, Me., and Hartford, Conn.

The method of applying valve cots to pneumatic tires which consists in making a hole through the wall of the tire, inserting the stem of the valve-cot therethrough and allowing it to project within the tire, introducing cement from below upwardly through the bore of the cot and allowing it to fall over and accumulate around the inwardly-projecting stem of the cot to form about it a conical ring adhering to the stem and to the inner surface of the tire.

No. 558,162.—Pneumatic Tire. Henry J. Doughty, Providence, R. I.

An improvement in making air-tubes with nipples for pneumatic tires, consisting in bringing together under pressure the edges of two sheets of rubber upon opposite sides of a mandrel having one part corresponding to the interior of the tube and another part to the interior of the nipple.

No. 558,248.—Tire for Vehicle-wheels. George Young, Almond, N. Y.

A tubular wire tire formed with a series of wires wound spirally in close order into a tube, with the alternate wires of one end set in spaces formed between the wires of the opposite end, and a covering over the tire to help sustain such wires in position.

No. 558,342.—Rubber Tire. John D. Beebe, Columbus, Ohio, assignor to the Beebe Tire Manufacturing Company, Portland, Me.

A rubber tire having imbedded therein a spring formed of parallel convolutions, the spring being of the same width throughout its entire length, and wrapped around several times to secure the required strength or external resistance, the rubber of the tube being between, uniting, separating and supporting the several layers.

No. 558,552.—Inflation-tube for Pneumatic Tires. Walter Ellis, Kingston-upon-Hull, England.

The combination of an air-tube, an externally-threaded metallic tube having an enlarged end inserted in the air-tube, a plate having its ends bent backwardly and fitted loosely over the threaded tube and against the outside of the air-tube, a nut turned on to the threaded tube and adapted to clamp the plate in position, a contracted central perforation in the outer end of the threaded tube, a flexible washer concentric with the outer end of the tube and provided with a perforation registering with the perforation in the latter, a cap threaded internally and adapted to be turned onto the outer end of the threaded tube and into engagement with the washer thereon, the cap having an exteriorly-threaded stem at one side provided with a perforation leading to one edge of the washer, and a dust-cap turned onto the stem.

No. 558,644.—Wheel-tire. August Gerstner, Brooklyn, N. Y.

The wheel-tire comprising an exterior flexible casing of suitable material and an inner filling composed of felt the shape of a normal cross-section of the increased filling, being substantially the vertical section of the frustum of a cone.

No. 558,689.—Rubber Tire. Frederick W. Huestis, Boston, Mass.

A tire for pneumatic use, consisting of an inner tube, a wrapping of fibrous threads having a homogeneous rubber coating and separately applied about the inner tube, and an outer tube to inclose the fibrous wrapping, the whole to be subsequently vulcanized.

No. 558,703.—Pneumatic Tire. George W. Rowe and William G. Heys Manchester, England.

The method of making an air tube for a pneumatic tire which consists in cementing or otherwise securing to a normal strip of rubber a stretched strip of similar material, then permitting the stretched strip to contract and compress the normal strip, and then constructing the tube from the composite strip thus formed, preferably with the original normal strip inside.

No. 558,786.—Wheel for Road-Vehicles. Peter Fyfe, Glasgow, Scotland.

In a wheel for road-vehicles an elastic or resilient hub composed of rubber cored out and having end pieces inclosing and separating the air spaces.

No. 558,956.—Wheel-tire. Thomas B. Jeffery, Chicago, Ill.

An envelope for an inflatable tire core consisting of a metallic base which forms the seat for the core; a tread of cushioning substance opposite the base, and lateral portions of inelastic fabric permanently joined to the lateral edges of the tread portion respectively and detachably joined to the metallic base.

No. 558,957.—Wheel-tire. Thomas B. Jeffery, Chicago, Ill.

In a wheel, in combination with a rim having lateral flanges defining a peripheral recess in the rim, a tire-sheath open at the inner circumference to receive an inflatable core; the sheath being adapted to seat on the edges of the flanges, and having lips which, when the core is inflated, extend within such recess in the rim from the lines of seating at the edges of the flanges toward the axis of the wheel, leaving an interval between them in such recess; the core being adapted when inflated to extend an inflated portion in the form of a tongue or bead down into the interval and occupy the same, and press outwardly against the inwardly-facing surfaces of the lips.

No. 559,120.—Gumming-tool for Mending Pneumatic Tires. Allison N. Clark, Plainville, Conn.

The herein-described gumming-tool for mending rubber-tires consisting of the nozzle, concave on one side and convex on the other with a curved delivery-orifice between the sides and means for connecting with a reservoir.

No. 559,152.—Armor for Pneumatic Tires. Charles W. Twist, Springfield, Mass.

An armor for a pneumatic tire for vehicle-wheels, consisting of a continuous band of metal having an unbroken surface throughout inclosed in a resilient substance, which constitutes the tread portion of a tire to which it is applied, and a layer of textile material embedded in the resilient substances intermediately of the band, and the outer surface of the resilient substance, the armor being adapted to encircle an inflated tire combined with clips integral with the metal band, for removably securing the armor to the rim of the wheel.

No. 559,297.—Pneumatic Tire. John C. Lighthouse, Rochester, N. Y.

In a pneumatic tire the combination with a covering having its edges separated, a binding strip provided on opposite sides with the spurs taking into the edges of the covering from its inner face and also provided with a longitudinal groove in its outer face and of the same depth as the thickness of a covering, and a band resting in and filling the groove, the binding-strip and band forming a connection which is of the same thickness as that of the covering at its edges and is continuous therewith; of the wheel-rim and bolts connecting the band therewith.

No. 558,606.—Bicycle-tire Valve. James Hardman, Jr., Belleville, N. J.

A bicycle tire valve, a valve casing, having a lower portion provided with a valve-seat and a tubular shank, and an upper portion separable from the lower portion, a flexible valve portion attached to the upper portion, having a cone-shaped end extending into the tubular shank, and the end of the valve being slitted and the valve having a cylindrical portion which fits snugly in the tubular shank and acts like a stopper.

MECHANICAL GOODS.

No. 547,855.—Elastic-core Semimetallic Packing. Alexander Montgomery, Newton, Mass.

A packing consisting of an elastic I-shaped core surrounded by layers of fibrous material charged with a suitable lubricant, and a thin, seamless, tubular covering therefor, consisting of one thickness of flat strands composed of metallic and fibrous threads.

No. 557,977.—Spraying-nozzle. Wm. L. Deming, Salem, Ohio, assignor to the Deming Company, same place.

In a discharge-nozzle a rotatable valve having a projecting angular handle bearing a longitudinal groove upon its under side flanked by overhanging lips, an adjustable screw-stop in the handle guided and directed by the groove and lips, and a fixed lug upon the nozzle for engagement by the stop.

No. 558,598.—Sprinkler. Barney H. Sanders, St. Louis, Mo., assignor to the Pfeuger & Henger Manufacturing Company, same place.

In a sprinkler, the combination with a suitable base, of a sleeve mounted thereon, and having a seat at its exit end, a stem located within the sleeve, a tapered plug arranged on the stem and adapted to coöperate with the seat on the sleeve to regulate the thickness of the spray, the plug and seat being adjustable relative to each other, and means for blinding or shutting off a portion of the spray.

No. 558,891.—Lawn-sprayers. John Auble and Arkless D. Weiss, Wilkes-Barre, Pa., assignors to Ralph W. Lee and James A. Watson, Washington, D. C.

A lawn-sprinkler consisting of a casing having an annular wall with a tangential opening therein, a substantially flat top plate having a central circular opening and a cone-shaped bottom plate arranged with the apex of the cone protruding from and nearly filling the circular opening of the top plate.

DRUGGISTS' SUNDRIES.

No. 557,589.—Atomizer-valve. Rhodes Lockwood, Boston, Mass.

In a valve mechanism for atomizers and other instruments or apparatus, a casing, a valve proper fitted therein, a valve-stem, and an air escape passage in the casing, the casing being movable upon the valve-stem to effect the opening and closing of the valve, the air escape passage being simultaneously closed and opened respectively.

No. 559,079.—Bottle-stopper. Thos. W. Howson, Elizabeth, N. J.

As an improved article of manufacture, a bottle-stopper composed of a tapering and cylindrical bottom, core or body open at the lower end and closed at the top end, which is provided with a shoulder or projection, a ring or handle engaged in the projection and a covering or casing or rubber cover or other suitable elastic substance fitted over the core or body, so as to cover the bottom and circumference thereof and the margin of its top.

BOOTS AND SHOES.

No. 558,279.—Manufacture of rubber soled footwear. Chas. L. Higgins, Montreal, Canada.

A boot or shoe having the usual leather or textile upper or vamp and insole, a rubber outsole, an intermediate waterproof retaining section comprising a rubber insole and strip of frictioned stock stitched to the vamp and an outer finishing-strip covering up the connecting-strip.

No. 558,937.—Device for retaining rubbers or overshoes, on shoes. Nelson D. Edmonds, Chicago, Ill.

An overshoe retaining device consisting of two separate coils of spring material connected together by a central connection which projects beyond the sides of the coils and means for securing the device to an overshoe.

No. 559,044.—Rubber Shoe. Emmett A. Saunders, New Haven, Conn.

In a rubber shoe, containing elastic upper extending continuously substantially around the opening in the line of strain for the insertion of the foot, in combination with the upper, a fastener and an elastic loop connecting with the fastener and merged into the upper substantially from the instep around the heel at an angle with the line of strain for inserting the foot.

MISCELLANEOUS.

No. 558,068.—Foot-holder for bicycle-pedals. Lysander L. Haworth, Chicago Lawn, Ill. Filed Aug. 12, 1895.

A foot-holder for a bicycle-pedal, comprising cruciform loops adapted to fit around the projecting ends of the pivot-rods of the tread-bars, elastic bands securing the loops to the lips of the side plates of the pedal-frame, and an elastic connection between the loops.

No. 559,072.—Horse collar. Harry Clarke, New York, N. Y., assignor of one-half to Edward A. Hall, same place.

A collar for horses comprising the usual body portion which is composed of an inner tube of rubber, a tubular covering or casing of canvas, the canvas covering or casing being provided on the inner side, or bearing-surface with a covering of wire mesh, over which is placed a covering or casing of thin leather, and the canvas tube or covering being also provided on the outer side with a steel or other metal plate or covering over which is placed a covering of leather which is also formed into a tubular attachment which is provided with a metal tube or lining.

TRADE-MARKS.

No. 28,078.—Hydraulic Hose, Cotton Rubber-lined, Linen, and Cotton Hose. Bowers Rubber Company, San Francisco, Cal. Filed Feb. 18, 1896.

Essential feature.—The word "Defender." Used since August 1, 1895.

No. 28,079.—Piston-packing. American Steam Packing Co., Boston, Mass. Filed Jan. 15, 1895.

Essential feature.—The compound word "Asbesto-Metallic," inclosed in a pictorial representation of piston-packing arranged in the form of a horseshoe. Used since March 20, 1894.

No. 28,184.—Yielding or Pneumatic Tires. Boston Woven Hose and Rubber Co., Boston, Mass., New York, N. Y., Chicago, Ill., San Francisco, Cal., and Cleveland, O. Filed Mar. 20, 1896.

Essential feature.—The words "Pebble Tread." Used since September, 1894.

DESIGN PATENT.

No. 25,430.—Rubber Bag. Charles V. Pollock, New York, N. Y. Filed Mar. 17, 1896. Serial No. 583,632.

NEW GOODS AND SPECIALTIES.

A GENUINE novelty in the line of stationers' goods is Eberhard Faber's "kneaded rubber" eraser. It is designed both for erasing pencil-marks and for cleaning drawings, and will be found to do its work rapidly, without injuring the surface of the paper upon which it is used. A special advantage is that no dust or waste is left upon the paper after the use of this eraser. The rubber has been specially compounded and is unvulcanized and can be kneaded or rolled into any desirable shape, or changed in shape as often as desired, without interfering with its value for erasive purposes. Manufactured by E. Faber, No. 545 Pearl street, New York.

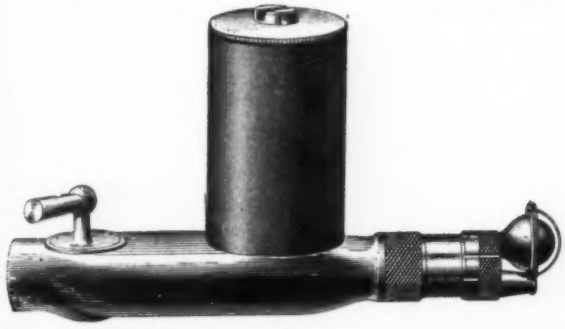
THE ANDRUS SKIRT GUARD.

THE skirt guard, and one made of rubber, at least in part seems to have come to stay. The latest, and some say the best, is the invention of the superintendent of the Chicago

Rubber Clothing Co., and is known as the Andrus guard. The elastic is black, covered with lisle web, and has neat nickel trimmings. Manufactured by Geo. S. Andrus, Racine, Wis.

THREE NEW "BALL-NOZZLE" IDEAS.

THE latest adaptation of the "ball-nozzle" idea is of a nature to claim the attention of the household, since it relates to increasing the comfort of the bath. It is called by the manufacturers a bath-douche, and is intended to supply—in place of the ordinary shower-bath, with its streams of water often pricking like needles—the even flow or spray which has been made familiar by their lawn-sprinklers.——A second new feature offered by the American Ball Nozzle Co. is their 1896 lawn-sprinkler, which differs from the device offered hitherto in that it will work satisfactorily with a lower water-pressure. It is designed to work with as low a pressure as five pounds, if necessary, whereas their lawn-sprinklers heretofore have required thirty pounds of pressure for the best results. It has happened in some cases that the pressure afforded by town water-supplies was not sufficient to produce the particular form of spray which is characteristic of the ball-nozzle devices, the water simply flowing uncontrolled through the nozzle. The 1896 model differs from the old in that the ball is so confined by a spring as to close the nozzle except when the water is turned on. The operation of the ball thus held in place is to produce a spray, no matter how slight the pressure.——The ball-nozzle has already been adapted to the spraying of orchards and vineyards, but at first only with a view to preventing the effects of drought. But a novelty is in the introduction of insecticides, and for this purpose is offered the "Gilmour atomizer."



It is intended for the use of all kinds of soaps, powders, pastes, emulsions, etc., not only for orchards and vegetable-gardens, but also for stables, poultry-yards, dog-kennels, and all other outhouses. Among the advantages claimed for the Gilmour atomizer may be mentioned that in connection with the use of Paris green. This is a valuable insecticide, but it is insoluble in water, and when mixed in barrels it is difficult to preserve the solution at a uniform stage on account of the tendency of the powder to settle rapidly at the bottom. But in this new atomizer the insecticide, being carried in a chamber near the nozzle, is added to the water by a device under control of the operator, with the result that a solution of uniform strength is applied to plants. The address of the American Ball Nozzle Co. is at Nos. 837-847 Broadway, New York.

THE JENKINS '96 PACKING.

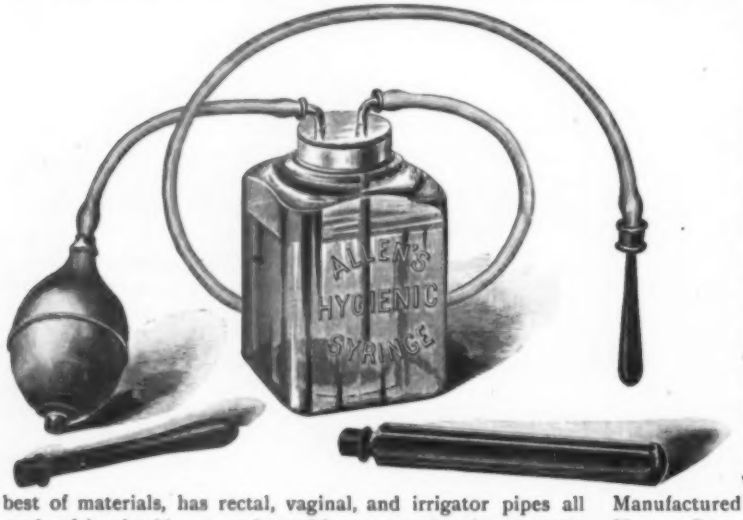
THE manufacturers of this new steam packing describe it so well that a portion of a letter from them here quoted will give the reader a very clear idea of its merits. They write: "We are, as you probably are aware, the originators of Unvulcanized Joint Packing, and in accordance with our views to always manufacture a high grade of goods, have been experimenting

for some time in order to obtain a packing that would fulfil all requirements. We think we have done so with what we call our new 'Jenkins '96 Packing' and from the reports furnished us, by prominent engineers and steam fitters who have given it a trial, as well as ourselves, we feel proud to know that not a fault can be found with it. While we have not changed the good qualities of our old Jenkins packing, we have added to its efficiency. The improvement consists in manufacturing a packing suitable for any and all pressures of steam, that will not rot, burn, blow or squeeze out under any conditions, and furthermore we have obtained a result which we believe no other packing manufacturers have yet obtained, that is a packing that has all the above advantages, and will last for years in a joint. In fact, it will last as long as the metal itself, and can be used again and again. We are very well aware this is a broad statement to make, nevertheless we stake our reputation upon it." Jenkins Brothers, No. 71 John street, New York.

JENKINS STANDARD PACK
TRADE JENKINS MARK '96 TRADE JENKINS MARK
JENKINS STANDARD PACKING
TRADE JENKINS MARK '96 TRADE JENKINS MARK
JENKINS STANDARD PACKING

ALLEN'S HYGIENIC SYRINGE.

THE principle of this syringe, as will be easily seen, is one of air pressure, which forces the liquid through the tubes in a continuous stream. It thus has continuous flow, is simple in construction, and cannot get out of order,—three virtues that need no extolling. Further than this it is made of the very best of materials, has rectal, vaginal, and irrigator pipes all made of hard rubber, together with a strong handsome bottle to hold the fluid. Made in pint and quart sizes. Manufactured by The J. A. Pozzoni Pharmacal Co., 100 South Eighth street St. Louis. Mo.



THE CLAGETT SKIRT FASTENER.

THE Clagett Bicycle Skirt Fastener fills a long desired want for any wheelwoman using boots and leggins in conjunction with skirts. Instead of a makeshift, such as a sleeve holder or plain pin, the skirt fastener consists of a rubber cable about three inches long with a safety pin at each end. Along the cable runs a wire loop, which attaches to the button of the boot or leggin, after having fastened the cable to the hem of the skirt with the two safety pins, laying it perfectly flat on the hem. A pair of buttons is furnished with each pair of fasteners. The hold is firm but gives free play and in no way interferes with perfect freedom of action. The fasteners are sold at retail at 25 cents a pair, and the trade can supply themselves at a liberal discount at the manufacturers' headquarters, The New York Bicycle Agency, No. 1 Park row, New York, N. Y.

THE BARLER PNEUMATIC SADDLE.

THIS type of pneumatic saddle is of course made in part of rubber. The framework consists of two steel plates, bolted together and carrying a pneumatic top, which may be inflated to any desired degree, according to the weight of the rider. An ingenious clip is set on the bottom plate at the back, permitting the divided pommel to conform to any motion of the body. The design of the saddle is after well-known hygienic principles, and the fit is said to be in all cases perfect. The best grade of materials is used, and but one valve is required, the air chamber being continuous. The top is made from soft leather, and all seams are placed so that they can not come in contact with any part of the rider's body. Manufactured by the A. C. Barler Mfg.Co.,104 Lake street,Chicago, Ill.

THE NO-SLAM SCREEN DOOR CHECK.

THE No-Slam is a practical device for preventing screen doors from slamming. It can be applied to any door in connection with any door spring or spring hinge. As the spring forces the door shut the No-Slam check swings out and the rubber ball receives the blow, thus causing the door to rebound slightly and allowing it to shut without slamming. It is a most durable check and will not rack the door. Manufactured by Sargent & Co., New Haven, Conn.

PNEUMATIC RUBBER HUBS.

AN invention designed to do away with the pneumatic tire, is what is known as the pneumatic hub. It consists of a small pneumatic tube on the hub of the front and the rear wheel, so protected as to secure the lateral rigidity of the ordinary hub, and yet be as resilient as the pneumatic tire. The wheel of course would have a rubber tire, but it would be more like the old fashioned cushion tire, and its

elasticity together with that of the hub will equal that of the pneumatic tire. The tubing in the hub is four inches in diameter, revolves with the wheel, is protected from friction, and is inflated by means of an ordinary valve. The inventor is John C. Reuter, Chicago, Ill.

THE "LITTLE DELUGE" SPRINKLER.

A STRANGE thing about this new and neatly finished sprayer or sprinkler is that while it has a flat plate entirely covering the outlet it will throw a straight stream. Another curious characteristic is that the flat plate shuts tighter as the pressure increases and yet there is a larger quantity of water thrown. Just why this is so is for the scientifically inclined to explain. In the meantime the rank and file of the practical will be purchasers because it is easily set for an umbrella shaped, flat, or fountain spray, or for a straight stream as desired. It is made of the best composition metal, and is already a very rapid seller. Manufactured by the Hancock Inspirator Co., 51 Oliver street, Boston, Mass.

RUBBER AT THE ELECTRICAL EXHIBITION.

INSULATING materials were very much in evidence at the national electrical exhibition, which was opened in New York on May 4, in connection with the nineteenth annual convention of the National Electric Light Association, and continued until May 30. It was a notable exposition of the history of electrical development—many displays being arranged with a view to showing not only the present state of the science, but also the first inventions in each line—and one interested in India-rubber and Gutta-percha could not help observing how much these materials had contributed to the whole sum of progress. Without them the most widely-advertised feature of the show would have been impossible, viz.: the cabling around the world of a message by Mr. Chauncey M. Depew, which was received a few feet away, at the end of fifty minutes, by Mr. Edison. In the line of purely historical exhibits there was a case containing sections from forty-nine deep-sea cables, all involving, of course, the use of Gutta-percha and India-rubber. They dated from 1854 onward, and included the first Atlantic cable.

The Bishop Gutta-Percha Co. (Nos. 420-426 East Twenty-fifth street, New York) were among the first in this country to use Gutta-percha, and they continue to make a variety of uses of this material. They exhibited specimens of aërial, submarine, and underground cables, insulated with Gutta-percha, India-rubber, and Balata, and their compounds; insulated cables for electric-lighting buoys; flexible cords for incandescent lamps, insulated with Balata; various articles of Gutta-percha, as sheet, acid-bottles, funnels, etc.; and samples of India-rubber and Gutta percha in various stages of manufacture. There was shown, in the way of a curiosity, a section of Gutta-percha pipe used in 1848 to supply water to Blackwell's Island, New York. Secretary Henry A. Reed was in charge of the exhibit.

The Okonite Co., Limited (No. 253 Broadway, New York), had an attractively-fitted-up booth where were shown specimens of cables and wire, insulated with their compounds, for a great variety of purposes. A biscuit of fine Pará rubber weighing 697½ pounds, which has long been the property of the company, attracted the attention of many passers-by. A pamphlet was distributed containing a report on Okonite cables, by Lord Kelvin, Dr. John Hopkinson, and Dr. J. A. Fleming.

The Safety Insulated Wire and Cable Co. (Nos. 225-239 West Twenty-eighth street, New York) had one of the most striking displays in the exhibition, due to the ingenious employment of the electric-light for illuminating their signs at night. These were shown in rotation, with such a pleasing effect that a spectator on seeing one sign illuminated seldom failed to stop until the whole series had been displayed. The company exhibited over 100 samples of different styles of wire and cables, and distributed information about their $400,000 underground-wire contract in Philadelphia, their contract for 160 miles of electric wires in Boston, statistics of the use of their wire in New York and elsewhere.

The Standard Underground Cable Co. (Pittsburgh and New York), of which corporation George Westinghouse, Jr., is president, displayed an extensive variety of lead-covered electric cables, insulated wires, etc. The company make a wide use of seamless rubber insulation for telegraph, telephone, and electric-light wire, and also insulate incandescent-lamp cord with sheet rubber, seamless rubber, or Balata, as desired.

The India-Rubber and Gutta-Percha Insulating Co. (works at Yonkers, N. Y.) made a comprehensive display of their armored underwater cables, naval marine and land cores, house wires, etc., under the Habirshaw processes. W. M. Habirshaw, the inventor, and president of the company, was present during the exhibition. Illustrations were shown of the bars and cables made by the company for the great work at Niagara.

The Standard Paint Co. (No. 2 Liberty street, New York) had samples displayed of all the "P. & B." electrical compounds, offered in competition with India-rubber.

The Washburn & Moen Manufacturing Co. (Worcester, Mass.), long established as extensive manufacturers of iron, steel, and copper wires, displayed a great number of samples, including their crown rubber insulated wire made at their own rubber plant. The great wire-making firm of John A. Roebling's Sons & Co. (Trenton, N. J.) also included rubber-covered wires in their exhibit.

The Loando Hard Rubber Co. (Boonton, N. J.) manufacture specialties for electrical insulation, both of hard rubber and what they call fossil hard rubber, or fiberized rubber, for use where there is heat enough to soften hard rubber.

The Columbia Rubber Works Co. (Nos. 66-68 Reade street, New York) showed an assortment of rubber specialties for electrical use, embracing everything from a washer to a telephone receiver, including a compound of asbestos and other insulating materials.

In the exhibit of the Joseph Dixon Crucible Co. (Jersey City, N. J.) graphite for resistance and other purposes was a specialty.

The exhibition was well attended throughout and must have proved successful from a financial as well as from a scientific and educational standpoint.

THE Rubber Tire Wheel Co. have developed their business in New York until it has become necessary to extend their quarters by adding three stores to the one already occupied, giving them now the ground floor and basement of Nos. 1780 to 1786 Broadway. They report that over half the new carriages now manufactured for town use are being equipped with solid rubber tires, and that their own tire is well in the lead.

THE ANNUAL MEETING OF THE UNITED STATES RUBBER COMPANY.

THE fourth annual meeting of stockholders of the United States Rubber Co. was held at noon on Tuesday, May 19, in the company's office at New Brunswick, N. J. President Evans presided over the meeting, at which 319,876 shares out of 395,665 were voted unanimously. The annual report of the president is given here in full:

TO THE STOCKHOLDERS OF THE UNITED STATES RUBBER CO.:

As president of your company, my tenure of office has been for only about one month of the fiscal year ending March 31, 1896, inasmuch as Mr. Banigan, who was elected president three years ago, voluntarily retired on March 4. The time fixed by our by-laws for this meeting comes so soon after the close of our fiscal year, and likewise so soon after the close of the fiscal year of the companies in which we have interests, that sufficient time has not elapsed to enable all the data of the business to be gathered together which would permit me to put before you more full details than I can in this report.

The conduct of the business naturally is sub-divided into four departments—first, purchase of raw materials; second, manufacturing of goods; third, the sale or distribution; and fourth, the general financial management. I touch briefly upon each one of these sub-divisions.

Raw Materials.—In the matter of raw material, exclusive of rubber, there has been no marked change in prices during the year. Crude rubber, however, has sustained fluctuations, with an average tendency to higher costs, which may, perhaps, be estimated as equaling on an average about 5 per cent. Inasmuch as crude rubber is the largest single element of cost in the product of our goods, the finished product has been necessarily increased in cost somewhat over the previous year. It is unquestionable that we shall have to face higher values in crude rubber for the year to come, the price to-day being something like 8 or 10 cents a pound higher than the average of last year. This condition of the crude market may be in some measure due to manipulation of producers or holders, but is largely due to the increased consumption of rubber in other lines of manufacture than boots and shoes. This is notably true in the bicycle business, the rapid development of that bringing about a large consumption of rubber for the pneumatic tires. The increase of crop has not been proportionate to this increase of consumption in this newly developed business. This increased cost of the crude is an important item, inasmuch as the consumption of the various factories in which this company is interested is from 7,000,000 to 10,000,000 pounds per year.

Manufacture.—In his annual report of a year ago the president pointed out with some detail the advantages of concentrated manufacture, and his recommendations thereupon, but I do not think that the measure of success has been reached in that direction which the best interests of this business demand. The manufacture of a large number of brands of goods in isolated factories, when there is not a sufficient demand for each brand to fully utilize the organization and the machinery of the plant in which that brand is made, adds very largely to the cost of the goods, inasmuch as all the fixed charges of each individual plant must be maintained and met, all salaries necessary to the organization must be paid, and capital is required to conduct the business, as well as to carry in each such plant a separate stock of raw materials, as well as of manufactured goods, and a reasonable stock of those manufactured goods at each agency point. Each individual plant must also be maintained and kept fully equipped, leading to large expenditures for machinery and equipments of all kinds. Just as good machinery is necessary and just as complete equipments necessary for a factory to make half its possible product as for one to make its full product.

I feel that this company should have accomplished more in this direction during the past year or two than they have. Bear in mind that the combined facilities for production far exceed the probable demand, and that in consequence not one of our productive plants has been utilized to its fullest capacity during the year, nor has any one of the producing plants run continuously, even at a moderate production, throughout the year. It would not be difficult to prove that this has caused the loss of hundreds of thousands of dollars to our companies in the aggregate. Whether the plant be large or be small, the results of the business of individual companies will clearly prove that the largest percentage of profit, other things being equal, has been obtained in the factories which have been most fully utilized. The difference in the cost of goods between one plant run to its fullest capacity 300 days in the year and a plant of corresponding efficiency run at one-half or two-thirds of its capacity for half or two-thirds of the time is probably not less than 6 to 8 per cent. on the value of the goods, and by many of those conversant with details is estimated much more.

Sales.—For the purpose of securing a concentrated management of the sales of all goods made by the companies in which we hold an interest, and with a view of economy in the distributing expense, it was deemed wise a year ago that your company should become the agent for each and every one of the manufacturing companies for the sale of their entire product, and the United States Rubber Co., as such selling-agent, should organize a selling department and bear all expense of transportation and sale of goods after they should leave the individual factories, your company to receive from such individual companies a compensation sufficient to cover all expense and in addition to yield to the United States Rubber Co. some income. This has been accomplished during the past year, and, although it has not yet reached the degree of efficiency I believe possible, yet the plan seems to possess advantageous features sufficient to warrant its continuance.

The general business conditions affecting all lines of merchandise in the manufacture and sale have been, as you are well aware, unfavorable during the year. The particular conditions affecting the consumption of rubber boots and shoes, as well as rubber clothing, have also been exceedingly unfavorable, as the country was devoid of snow, ice, and rain until very late in the usual consuming season. Scarcely any of such consuming weather prevailing before March in any part of the United States, our sales were consequently decreased. Probably a somewhat further decrease resulted from the economic conditions of the people of the west, who are large consumers of our class of goods. Very low prices have ruled for crops, and the consequent decreased income on the part of many consumers has led to rigid economy and a decreased purchasing power. It is estimated that in the general line of merchandise articles the average decreased sale since 1893 has been 25 per cent.

I am glad to say that although the character of our business requires the giving of large credits, yet in spite of the depressed financial condition of the country in general our losses by bad debts on the sales of the year have been less than we might have expected, not reaching one-half of 1 per cent.

Finances.—By the treasurer's statement, which is appended hereto, it will be seen that the gross profits of the company derived—

1. From its own manufacturing operations;
2. From commissions paid the company as agent for the sale of goods, less expenses of same; and
3. From dividends upon its investments—

amount to $2,632,939.03. The expenses of the company, including salaries, office and other expenses, amount to $293,148.43, leaving as net income for the year $2,339,790.60.

There has been paid from the net income two dividends of 4 per cent. each—July 15, 1895, and January 15, 1896—upon the preferred capital of $19,400,500, requiring $1,552,040, leaving surplus earnings for the year, $787,750. Add surplus at beginning of the year, $867,217.88 [makes a total of $1,663,968.48]. Charged to depreciation, $1,253,954.08, leaving surplus, $410,014.40. Earnings on investments which have not yet been paid into the treasury of this company, $1,911,697.98.

In addition to this I am glad to say that the general finances of the company have never been in a more favorable condition than at the present time. It will be noted that not only have we paid the annual dividend of 8 per cent. during the year, but we have also charged off, as per the treasurer's statement, the sum of $1,253,954.08. Further, I remind you that none of the property of this company, nor that of any of the companies in which this company is interested, is hypothecated by bonds, mortgage, or otherwise.

General Policy.—The management of your company has felt it incumbent upon them to enter upon a policy which they believe will result in a reduction of costs in general, while improving the quality of goods manufactured. In order to carry out such policy, it has been deemed advisable:

1. So far as practicable to consolidate the purchasing of all supplies of raw materials for the various manufactories into one single buying agency, believing that the purchase of large quantities of goods can be made at more advantageous figures than the buying of small isolated lots.

2. To undertake to reduce the number of brands of goods manufactured, and to consolidate the manufacture of remaining brands in those factories which have demonstrated superior facilities for production, or advantageous labor conditions. This course was for the purpose of utilizing our most efficient instruments of production and closing those that were inefficient and unprofitable.

3. The consolidation of sales in the manner which has been described above, with the view of materially reducing expenses of that department. The progress made in such consolidation of sales has been, perhaps, greater than in any other direction, and has already resulted in a saving in the cost of selling under the present plan, of about $150,000 per annum over former methods.

This policy undertaken, as outlined above, in the interest of the stockholders, has made necessary the discontinuance of some salaried officials, acting either as officers of some individual companies, as buying agents, or selling agents. It may be that thereby some local interests have been antagonized and possibly some feelings of antagonism developed in individuals, but your management has tried to move on lines of general benefit without any personal motives.

I do not believe that the desired economies in any branch of this business, which are necessary to place it in a commanding position as against existing competition, or competition that may arise in the future, can be attained in any other way than by most thorough concentration of management in all departments of the business. The interest of an associate body of stockholders should be greater than any individual or local interest, and the latter must give way to the former whenever the interests of the former demand. I am frank to say that should I continue to take any part in the management of this company in the future, I shall seek to pursue that policy, and I firmly believe that the results of it will justify its wisdom and merit your approval.

R. D. EVANS.

Charles R. Flint, treasurer of the company, submitted a statement of the financial condition of the company on March 31, 1896, in comparison with which the figures for two years past are given:

ASSETS.

	1896.	1895.	1894.
Cash	$ 448,505 67	$ 119,900.99	$ 103,956.29
Bills receivable	796,061.85	974,130.62	576,095.10
Merchandise	729,209.47	783,722.23	1,156,498.97
Furniture and Buildings			56,978.06
Investments	39,183,934.11	38,677,108.79	38,687,922.45
Total	$41,157,711.10	$40,554,862.63	$40,581,450.87

LIABILITIES.

	1896.	1895.	1894.
Bills payable	$	$	$ 367,218.32
Accounts payable	311,339 83	110,144.75	92,536.41
Preferred stock	19,400,500.00	19,400,500.00	19,400,500.00
Common stock	20,166,000.00	20,166,000.00	20,166,000.00
Due companies for merchandise	869,856.87		349,527.85
Total	$40,747,696.70	$39,676,644.75	$40,375,782 58
Other assets			41,255.00
Surplus	410,014.40	876,217.88	246,923.29

OPERATIONS OF THE YEAR.

Income.

	1896.	1895.
Profits from the operation of plants owned by the company	$1,830,837.14	$ 178,767.52
Dividends from stock owned in other corporations		2,751,476 00
Net income from the sale of rubber boots and shoes	802,101.89	
Total	$2,632,939.03	$2,930,243.52

Disbursements.

	1896.	1895.
Salaries, rent, taxes, legal and other expenses	$ 293,148.43	$ 213,873.50
Dividends on preferred stock	1,552,040.00	1,552,040.00
Dividends on common stock		504,150.00
Balance to surplus	787,750.60	660,180.02
Total	$2,632,939.03	$2,930,243.52

Surplus.

At the beginning of the year	$ 876,217.88	$216,037.86
Added during the year	787,750.60	660,180.02
Total surplus	$1,663,968.48	$876,217.88
Charged to depreciation	1,253,954.08	
Net surplus	$410.014 40	

A foot-note makes this statement: "Earnings from investments in the companies in which the United States Rubber Co. is interested and not yet paid into the treasury of the company, $1,911,697." Another statement is to the effect that the year's earnings as shown by the balance-sheet were sufficient to pay 3.9 per cent. on the common stock, in addition to the preferred dividend. In the preceding year the surplus was sufficient to pay 5.8 per cent. and a dividend of 2½ per cent. was actually disbursed.

The by-laws were amended so as to reduce the number of directors from twenty-five to fifteen, whereupon a committee on nomination of three was named by the president, and the ticket for directors suggested by them was elected without op-

position. The only new name in the list is that of Charles Stewart Smith, president of the New York Chamber of Commerce. The list follows, the figures in parenthesis indicating the number of times for which each director has been elected to date:

1. SAMUEL P. COLT, Providence, R. I. (5)
2. JOSEPH BANIGAN, Providence, R. I. (4)
3. ROBERT D. EVANS, Boston, Mass. (5)
4. JAMES B. FORD, New York city. (5)
5. CHARLES R. FLINT, New York city. (5)
6. J. HOWARD FORD, New York city. (5)
7. ROBERT M. GALLAWAY, New York city. (5)
8. WILLIAM H. HILL, Boston, Mass. (5)
9. HENRY L. HOTCHKISS, New Haven, Conn. (5)
10. CHARLES L. JOHNSON, New Haven, Conn. (5)
11. MAHLON C. MARTIN, New Brunswick, N. J. (5)
12. FREDERICK M. SHEPARD, Orange, N. J. (5)
13. CHARLES STEWART SMITH, New York city. (1)
14. WILLIAM L. TRENHOLM, New York city. (5)
15. SAMUEL N. WILLIAMS, Williamsport, Pa. (5)

The following eleven names, which appeared in the list of directors last year, most of them having been directors from the beginning, are not included this year: Charles A. Coffin, H. B. Hollins, George H. Hood, James P. Langdon, George A. Lewis, Edwin A. Lewis, Heman Burr, George M. Allerton, W. S. Ballou, John J. Banigan, and George Watkinson.

The election of officers, which usually has occurred at a meeting of the directors within a day after the annual, had not occurred at the time of going to press of this paper. It was expected, however, that the election would take place on Wednesday afternoon, June 10.

Joseph Banigan made a speech at the meeting in reference to published reports of his intention to start an opposition factory and declared his continued loyalty to the company, in which he was still a large stockholder. He expressed a wish not to be included again in the list of directors, in spite of which he was nominated and elected as a member of the board. Later in the meeting President Evans took occasion to compliment Mr. Banigan highly on his services to the company and urged him to accept the office of director. To a reporter Mr. Banigan said that his action was due to the fact that it might seem that, if he accepted the office of director, he was making a bid for the office of president again, which was not his intention.

It is stated that the $1,911,697 earnings on investments which have not yet been paid on or into the treasury of the United States Rubber Co. consist of surplus earnings of auxiliary companies which are now used as working capital. The Boston *Globe* points out that "if to this sum is added cash on hand, the bills receivable and merchandise on hand, the company has available cash assets of $3,885,472. Deduct all its liabilities, except the two classes of stock, and there is left $2,703,877 apparent surplus assets, or an equivalent of 13½ per cent. on the common stock, a remarkably strong showing."

In regard to the writing off for depreciation of an amount equivalent to over 6 per cent. on the common stock, the Boston *Advertiser* remarks: "It is better to have it done at once rather than too late, as in the case of the General Electric Co. It is understood that the depreciation charged off is against sales of plant made during the year, and one or two unused factories which had to be taken into the trust and have simply cumbered the balance sheet so much."

FIRE-HOSE REQUIREMENTS IN NEW YORK CITY.

AN unusually large quantity of hose was contracted for by the New York fire-department during the past year, chiefly on account of the annexation to the city of another slice of Westchester county and the extension of the fire service to the new district. It is the custom of the department to advertise once during each year for bids for supplying the city's requirements in fire-hose, specifying the different brands desired, and the quantity of each. After the latest addition to the city's area, and the consequent increased needs for hose, a supplementary call for bids was published, the specifications in the two advertisements being as follows:

May 23—Bids Opened June 12:

10,000 feet 2½ inch circular-woven, seamless, multiply, rubber-lined, cotton fire-hose, Eureka Fire-hose brand, to weigh not more than 60 pounds per length, including couplings.

5,000 feet 2½-inch carbolized rubber-lined fire-hose, Maltese Cross brand, to weigh not more than 60 pounds, etc.

3,000 feet 3-inch carbolized rubber-lined fire-hose, Maltese Cross brand, to weigh not more than 80 pounds, etc.

5,000 feet 2½-inch rubber-lined fire-hose, P. G. brand, to weigh not more than 60 pounds, etc.

November 27—Bids Opened December 13-30.

3,000 feet 2½-inch straight warp, circular-knit cotton, rubber-lined fire-hose, Willis single-knit brand, to weigh not more than 45 pounds, etc.

3,000 feet 1½-inch carbolized rubber-lined fire-hose, Maltese Cross brand, to weigh not more than 30 pounds, etc.

3,000 feet 3-inch carbolized rubber-lined fire-hose, Maltese Cross brand, to weigh not more than 80 pounds, etc.

32,000 feet, total specified.

Separate bids were required on each item advertised for, and in each case the successful bidder was the manufacturer of the brand named. This long has been the practice, the advertisement for bids and the signing of contracts with bonds for their fulfillment being merely matters of form, to comply with the laws governing the purchase of supplies for the city. As will be seen, a considerable variety of hose was ordered, the prices ranging from 55 cents to $1.60 per foot, and the total amount reaching $31,650. Forming a part of each contract are specifications in addition to those in the advertisements quoted, of which a specimen may be given here:

Specifications for furnishing 5000 feet of seamless patent improved carbolized rubber-lined firehose, Maltese Cross brand:

The hose to be furnished is to be made of the best quality Pará on duck woven from Gulf or Peeler cotton, both rubber and duck to be thororoughly carbolized. It is to be not less than four-ply with five-ply and capped ends, and of 2½ inches internal diameter, and is to be delivered in lengths of 50 feet with New York fire-department standard couplings attached—the couplings to be made of the best composition metal and to have the thread set back one-eighth of an inch from the face; but in no case shall the number of threads be less than now used in the regulation couplings of said department. The brand or trademark is to be marked on each length of hose about one foot from the female coupling. Each and every length of hose with the couplings attached is to be capable of resisting a pressure test of 300 pounds to the square inch without twisting or turning more than three-fourths of a revolution or elongating more than thirty inches, or increasing in exterior diameter more than one-eighth of an inch at any point, and is to weigh not more than 60 pounds, including couplings.

These specifications do not vary materially in the several contracts except in the dimensions and weights given. One contract during the year, however, was based upon the require-

ment of "the best quality of Pará rubber and best Gulf cotton, thoroughly prepared to prevent mildew." It is specified that a certain other brand shall be lettered in white, on a black ground, "if possible."

In every case the contractors are required to warrant their hose against wear and tear for three years, any part failing in service to be either replaced or repaired, at the option and demand of the department, without expense to the city. There is excepted, in the terms of the guarantee, any damage to hose by fire or acids, or by being run over by vehicles or stepped upon by horses. All hose must be delivered within ninety days after the execution of the contract.

Without doubt good hose has contributed more than any other one item to the development of the modern effective system of fire protection, and there was no really good hose before the use of India-rubber in its manufacture. Leather hose was the reliance of the New York fire-department up to 1867, in which year a commission was sent to visit the various cities in the country having paid fire-departments. They reported leather chiefly used in Boston; leather in Cleveland; "a portion rubber" in Cincinnati; leather and rubber in equal proportions in Detroit. In the same year the chief engineer of the department, in his annual report, commended as superior to anything else he had seen the "combination" hose—as the rubber and duck hose was first called. From that time the use of rubber fire-hose in New York increased, while the leather hose began to disappear. Rubber hose had been in satisfactory use for years before in the fire service of a few towns, and it is uncertain why its introduction in New York was so long delayed.

At the end of 1879 the city owned only 550 feet of leather hose, and after that it was not heard of. The leather hose was expensive—$1.57 per foot having been paid in 1868—and involved a tremendous amount of labor in repairs. The Metropolitan fire-department at the end of 1867 had only 70,575 feet of hose, but during the year the repair-shop had handled 75,000 feet. It is evident that hose was not bought under guarantee in those days. About that time the wages-roll in the hose-shop was more than $5000 a year. Yet the universal complaint was that the condition of the hose was very bad.

The inefficiency of the old fire service finally led to the abolition of the volunteer companies, and a centralized department, with a rich city to pay the bills, brought about a constant improvement in equipment, but in no respect has the improvement been greater than in the quality of hose used. As for the cost of hose, the following comparative table has not before been printed:

YEAR.	Amount Paid for Hose.	Feet of Hose Owned at End of the Year.
1880	$17,350.00	116,500
1881	14,250.00	117,500
1882	14,000.00	118,350
1883	24,012.50	132,292
1884	28,400.00	137,884
1885	18,500.00	159,503
1886	17,520.00	167,905
1887	30,750.00	186,580
1888	29,120 00	202,208
1889	30,000.00	210,100
1890	30,000.00	.....
1891	29,900.00	.....
1892	17,500.00	.....
1893	17,850.00	.....
1894	24,085.00	253,000
1895	31,650.00	.....

Of the hose on hand in 1889 nearly 97 per cent. was of 2½ inches internal diameter, the remaining amount being in special lengths of large sizes. The proportionate amounts of hose ordered in 1895 of different diameters are shown herewith:

	Percentage.
One and one-half inch hose	9.375
Two and one-half inch hose	71.875
Three-inch hose	18.75
Total	100.

In addition to the cost of rubber hose, there is a large expenditure for special appliances for its use. There are now owned by the New York fire-department 43 four-wheel hose-tenders, 1 four-wheel double-reel boat-tender, 33 two-wheel hose-tenders, 32 four-wheel hose-wagons, 1 hose-carriage, and 8 hose-jumpers. Two or three hose-repairers are regularly employed in the department.

Contractors for supplying the city with hose deliver it to the repair-shops of the fire-department, where it remains in the custody of the officer in charge until requisitions are made for it in proper form. A record is kept of each lot issued, and a general order of the department requires, at the expiration of every year, a special report from the various companies, giving all the particulars of the merits or demerits of the hose in use. The information thus gained is the basis of the decision reached with regard to future purchases of the various brands.

The following list of hose owned by the New York fire-department on January 1, 1895, has been prepared for THE INDIA RUBBER WORLD by the obliging officials of the department:

BRAND.	Diameter. Inches.	50-Foot Lengths.	BRAND.	Diameter. Inches.	50-Foot Lengths.
Maltese Cross	1-½	102	Baker	3-½	1
	1-¾	1	Adriatic	2-½	296
	2-½	2,104	American Jacket	2-½	15
	3	431	White Anchor	2-½	5
	3-¼	127	Boyd	2-½	13
	4	20	Unique Jacket	2-½	175
	5	12	Surprise	2-½	93
	6	4	Nonpariel	2-½	10
Peerless	2-½	126	Red Cross	2-½	4
Eureka	2-½	1,163	Chemical	....	11
	3-½	6	Tapering	....	62
Baker	2-½	298			
	3¼	12	Total		5,091

The last item (tapering hose) refers to lengths of 25 feet The total length of hose represented by the table is 253 000 feet. According to this table 85 per cent. of the hose on hand was 2½ inches in diameter.

ANOTHER RUBBER-PLANTING COMPANY.

THE Kentucky Coffee and Rubber Co. have been incorporated under the laws of Kentucky to develop 5000 acres of land lately purchased in the isthmus of Tehuantepec. The tract borders on the Uspanapa river, and lies fifty miles from the seaport of Coatzacoalcas, in the state of Vera Cruz. It is intended to begin operations shortly after July 1, the first step being to clear the lands, after which coffee will be planted, with India-rubber shade-trees in every fifth row. If such a course should promise to prove profitable, as much attention will be paid to the India-rubber as to the coffee. The capital stock is$25,000, and the principal office of the company at Ludlow, Ky., opposite the city of Cincinnati. The directors are: J. H. Dugan (president), John W. Miller (secretary), Thomas Mason (treasurer), John McLaren, L. H. Webber, W. Ryan, D. C. Stickworth, and Ben. M. Sanford. The latter resides at Atlanta, Ga. Mr. McLaren, whose address is at No. 611 Crescent avenue, Covington, Ky., promises that any progress will be reported for the benefit of INDIA RUBBER WORLD readers. The proposed seat of operations is in the district in which Mr. F. O. Harriman is interested in an India-rubber and coffee plantation in Mexico, some particulars of which have been printed in this journal from time to time.

WHERE OUR RUBBER EXPORTS GO.

THE value of exports of "India-rubber goods" from the port of New York for the four weeks ending May 26 was as follows, according to the custom-house returns:

Belgium	$ 350	Argentina	$ 30
Denmark	293	Brazil	496
England	6,561	Chile	620
France	4,511	Colombia	1,011
Germany	6,148	Ecuador	507
Holland	2,000	Peru	206
Italy	4,500	Venezuela	217
Switzerland	263	British Africa	1,255
British North America	154	China	197
Mexico	1,760	Japan	2,912
Central America	715	British East Indies	89
West Indies—British	309	Australia	2,415
Dutch	10	Tasmania	17
Spanish	712	New Zealand	757
Hayti	108		
S. Domingo	55	Total	$39,178

These figures, by the way, do not include the whole export of goods from the port of New York alone in which India-rubber forms a part. They do not include clothes-wringers, electrical material, dental material, bicycle-sundries, and a large number of other items involving more or less rubber. The appraised value of bicycles exported is between $40,000 and $50,000 per week, and they are all equipped with India-rubber tires. Then there is the item of dress-shields, some of which, at least, contain rubber, of which there were exported in a single week, together with smaller lots, $1419 worth to Liverpool, $1027 to Southampton, $1029 to Hamburg, and $557 to Antwerp.

Exports of crude India-rubber from New York for the four weeks ending May 26 were valued as follows: London, $12,181; Liverpool, $29,296; Southampton, $75; Havre, $9307; Rotterdam, $5500; Hamburg, $6067; Japan, $303; Argentina, $56; Total, $62,785.

There were exports of India-rubber scrap as follows: To London, $1331; to Liverpool, $3197; to Glasgow, $6975; to Havre, $448; total, $11,951.

ACCOUNTS OF TWO ENGLISH COMPANIES.

AT the seventeenth annual meeting of the W. T. Henley's Telegraph Works Co., Limited, in London, on March 13, a satisfactory showing of business was made. The volume of sales in 1895 increased over those of the preceding year by nearly 47 per cent., and that not through any large submarine-cable work, but by the steady growth of the business in other branches. The amount spent on the maintenance of their works was about twice as much as usual, the amount written off for depreciation was $9820 as against $5000 in the year before, and $25,000 was set apart for reserve. Yet the company were prepared to pay the usual dividend of 7 per cent. on the preference shares and 8 per cent. on the ordinary shares, the latter being the largest dividend yet paid. The company had begun by paying 5 per cent. on the ordinary shares; last year they paid 6 per cent.; and they could, if the directors deemed such a course wise, pay 12 per cent. this year. But they preferred strengthening the company in every possible. Their balance sheet made a good showing of "bills receivable" but no "bills payable," for they had bought altogether for cash. The year's profits had been $94,714, which, together with the balance from last year of $43,120, made the sum to be disposed of $137,834. It was proposed to carry forward $66,835. The share capital issued amounts to $491,850, of which $150,000 is in preference shares.

* * *

THE seventh annual meeting of stockholders in the English concern of J. Mandleberg & Co., Limited, manufacturers of waterproof clothing, was held in Manchester on March 16. Although the result of the year's trading had been unfavorably affected by the unusually dry weather, the accounts showed a balance for distribution which allowed a dividend of 7 per cent. on the preference shares, a dividend of 5 per cent. on the ordinary shares, 5½ per cent. interest on the mortgage debentures, the writing off of $13,200 to the depreciation account, and a balance to carry forward of $3519. Additions made to the company's buildings and plant during the year are valued at over $30,000. As a matter of probable interest to the owners of plants in the United States, the following figures have been compiled from the company's published accounts, showing their condition on December 19, 1895:

ASSETS

Premises, mills, plant, tools, etc., as per last balance-sheet	$1,222,877.12	
Additions during the year	30,227.97	$1,253,105.09
Debts due the company		128,247.62
Cash in hand		4,695.47
Bills receivable		12,113.97
Merchandise		176,698.52
Advertising account carried forward		1,875.00
New agencies charges carried forward		2,072.85
Total		$1,578,808.52

LIABILITIES.

Capital—12,000 ordinary shares	$600,000.00		
Do. 7,000 preference shares	350,000.00		$950,000.00
Mortgage debentures—700 issued	350,000.00		
Less 140 paid	70,000.00		280,000.00
Reserve fund			50,000.00
Depreciation fund			73,200.68
Loans			195,220.02
Bills payable			8,226.08
Interest accrued on debentures and dividend on preference shares payable Jan. 1, 1896, less tax			18,642.00
Profit and Loss—Balance brought forward from profit and loss account		$87,135.35	
Deduct dividend on preference shares and interest on debentures one year to Dec. 19, 1895	$40,415.33		
Depreciation fund	13,200.68		
Dividend on ordinary shares paid March, 1895	30,000.00	83,616.01	3,519.34
Total			$1,578,808.52

PROFIT AND LOSS.

Dr.		*Cr.*	
To General expenses	$150,854.34	By Gross profit	$207,989 81
" Bad debts	1,297.88	" Transfer fees	18.12
" Directors' fees	1,680.54		
" Balance	54,175.17		
	$208,007.93		$208,007.93

Balance brought down	$ 54,175.17
Balance brought forward from last year	32,960.18
Balance carried to balance-sheet, as above	$ 87,135.35

In making up this statement the pound sterling has been converted at $5 throughout.

THE factory lately occupied by the Hardwick Rubber Mfg. Co., Trenton, N. J., is being operated by the Mundell Rubber Co., who claim to recover rubber by a new process, using the product in making soles for lawn tennis shoes. It is reported that John Mundell, the large shoe manufacturer of Philadelphia, is interested in the new company.

NOTES ON THE RUBBER INDUSTRY IN CANADA.

SNOW AND THE RUBBER-SHOE TRADE.

CANADA would be the paradise of rubber-shoe manufacturers if the population were less sparse. In the United States a single good snowfall has been estimated to be worth a quarter of a million dollars in profits to the rubber-shoe makers, and the occasional storms here are each an important epoch in the year. But in Canada the snow is continuous during the winter. In Montreal, for instance, for four months in the year snow falls on an average one day in every two, while twenty-four days of snowfall in a single month have been recorded frequently. And when it does snow, the storms amount to something. The average rate is 1½ inches for each day of snowfall during the real winter months.

It may fairly be said that snow becomes the most obvious feature in Canadian life in winter. From early winter until the spring thaw the streets in the cities and the roads in the country are covered with snow. There is no type of vehicle common in our American cities which is not duplicated on the streets of Montreal or Toronto, except that in winter in the cities north of the line they are mounted on runners, with never a wheel in sight. There are open sleighs, closed carriages, delivery wagons from the stores, express-wagons—all on runners, gliding here and there with ease, and noiselessly save for the bells on the horses. Countrymen drive in from long distances, and every road leading into town is a thoroughfare for the sledding of hay, cattle, and other agricultural staples to market. Everything on wheels is stored away for a warmer season, and sleighing is so much a matter of course that not even on the busiest streets in Canadian cities do the authorities dare to remove all the snow. As for the lesser streets, the snow accumulates all the winter, raising the road-level with each successive storm. Under such circumstances it is not strange that the sidewalks should also be allowed to remain covered by snow all winter. It may help the reader to realize the difference in weather conditions between New York and Montreal to give here some figures showing the average number of days of snowfall and the average depth of snowfall in inches, based upon observations for a long term of years. The figures follow:

PERIOD.	DAYS OF SNOW.		SNOWFALL.	
	New York.	Montreal.	New York	Montreal.
YEAR	17.2	80 0	32.6	118.8
January	4 7	17.3	9 6	28.6
February	3 8	12.3	8 2	18.4
March	3 5	15 8	5 6	25.9
April	.7	5.1	1 0	5.7
May	....	.8	....	.1
October	....	1.8	....	.8
November	1.1	10.1	1.3	13.1
December	3.4	16 8	6 9	26.2

In such a country some sort of overshoe is worn in winter as regularly as hats or caps. Every style of rubber footwear is in evidence, but particularly those best suited to a country covered by snow during more than a third of the year. But the drawback to the rubber trade is the limited population—scarcely greater in the whole Dominion than in New York state alone. It may be said, however, that the Canadian manufacturers have taken advantage, as far as possible, of the local demand. Three extensive concerns are producing rubber footwear, with such success that the importation of such goods has declined to a very small figure.

THE TORONTO RUBBER SHOE CO.

THERE has been another change in the affairs of the Toronto Rubber Shoe Co. For some time the control of this concern has been the subject of litigation, but recently the case in dispute was settled out of court, with a return to the old name and management—The Toronto Rubber Shoe Manufacturing Co., Limited. It is mentioned, by the way, that the business was pretty well taken care of during the fight for control, and that a steady trade is being done. It seems that the assets of the company were conveyed on December 24, 1894, to Charles C. Van Norman, William Harvey, J. H. Taylor, and others. Two of these compose the firm of Harvey & Van Norman, prominently engaged in the manufacture of leather boots and shoes. James Pearson, an original stockholder in the company, brought suit to set aside the sale on an allegation of fraud and conspiracy. Under the terms of the agreement out of court, the defendants agreed to be declared trustees of the estate during the past two years, for which Van Norman and Harvey receive salaries of $7000, they in turn having to account for all the original assets and profits accruing during their term as trustees. They are also released from all obligations incurred by them as trustees, and now step down and out of the business entirely, assigning the 221 shares of stock for which they paid 50 cents on the dollar to the plaintiff, Pearson, and resigning from the board of directors. The defendant, J. H. Taylor, remains in the company, retaining the 112 shares of stock which he owned before the sale of 221 shares to Harvey and Van Norman. James Robinson, of Montreal, has been elected president of the company, and is reported to have secured a large slice of the stock. He is known as a pushing, successful jobber, and the same is true of the vice-president, L. McKellar, a member of the firm of McKellar & Dallas, of Toronto. The secretary-treasurer is R. H. Green, of Toronto, upon whom will fall the greater part of the management of the business. Sylvester Neelan and T. J. Sheehan, original stockholders, with 178 and 179 shares respectively, sold the rights to their shares to Pearson some time ago and are out of the business, and he in turn has sold to the new comers. George Pearson, a retired farmer, not related to the other Pearson, has also become a stockholder and director in the company. The capital stock is $100,000.

A recent issue of the Moncton (N. B.) *Times* has this paragraph: "Mr. James Robinson, president of the Toronto Rubber Shoe Manufacturing Co., and Mr. Joseph A. Young, general selling-agent, spent a couple of days in town this week. L. Higgins & Co. are sole selling-agents for the maritime provinces for this concern, and are also stockholders in the company. Consequently they handle a large quantity of the superior goods made by the Toronto company."

RECENT STATISTICS OF THE TRADE.

THE extent of the rubber industry in Canada may be inferred from the average annual consumption of raw material for five years past, viz.: crude rubber of all kinds, 1,867,281 pounds; rubber substitute and reclaimed rubber imported (besides what was manufactured in the Dominion), 290,252 pounds; duck for belting and hose, $50,194 worth. The distribution of imported raw materials in the fiscal year 1893-94 was as follows:

		Montreal.	Toronto.
Crude rubber	pounds	1,721,217	356,091
Reclaimed rubber	"	411,264	118,636
Duck	"	30,799	29,023

The yearly importations of India-rubber and Gutta-percha goods have steadily declined in value. The official figures for the fiscal year 1893-94 show the following analysis of the imports classed by the customs officers as rubber goods:

	United States.	United Kingdom.	Other Countries.	Total.
Belting	$ 11,288	$ 35	$ 64	$ 11,387
Boots and shoes	40,241	143	22	40,406
Clothing and waterproof cloth	11,393	241,007	958	253,358
Hose	24,304	495	29	24,828
Packing and mats	10,496	2,322	.....	12,818
Sheeting	243	47	.....	290
Thread	6,011	.....	.....	6,011
All other	113,295	31,597	30,389	175,281
Total	$217,271	$275,646	$31,462	$524,379

The value of dutiable rubber goods imported was $519,296, upon which duties were collected to the amount of $157,800, or an average of slightly over 30 per cent. The importation of rubber footwear from the United States had declined from a quarter of a million dollars in 1890 to $40,241 in 1894. In addition to the above figures must be mentioned elastic webbing, for use in manufacturing, amounting to $101,115.

The imports of manufactures of India-rubber and Gutta-percha for the last fiscal year (1894-95) were the smallest for very many years. They are given below, through the courtesy of the customs' service at Ottawa, but an analysis of the origin of the imports cannot be given as in the above tables:

	Value.
Boots and shoes, with tops or uppers of cloth	$ 4,365
Boots and shoes, other	51,446
Belting (59,093 pounds)	13,186
Clothing, and clothing made waterproof with India-rubber	171,941
Hose (63,728 pounds)	18,542
Packing, mats, and packing (54,987 pounds)	13 216
Sheeting (27,442 pounds)	5,629
Elastic thread (5,828 pounds)	7,606
All other rubber goods	134,415
Total	$420,346

Elastic thread is imported free of duty, for manufacturing purposes, so that the dutiable imports of rubber goods for 1895 amounted to only $412,740.

RUBBER SHOES FOR CHINA AND JAPAN.

SOME orders for rubber shoes for shipment to China which have been received lately in New York are justly a matter of interest to the trade in this country, for the reason that, if the Chinese as a race should become wearers of such shoes, an immense new field would be opened to American manufacturers. It has long been known here that some rubber shoes of British manufacture were worn in China, and about four years ago the New Brunswick Rubber Co. made up some samples and sent them to that country. They attribute to this fact their recent receipt of orders from Hong Kong, aggregating over 100,000 pairs of rubbers, and are disposed to feel that similar orders will continue to arrive.

The rubbers worn by the Chinese are not overshoes, but a substitute, for rainy weather, for their ordinary footwear, and might properly be called rubber slippers. In general form they do not differ from the wooden-soled silk or cotton shoes worn everywhere by Chinamen. This is particularly true of the broad, flat, heelless soles. As for the upper part of the rubber shoe, two corrugations (called "bones,") about a half-inch apart, extend from the sole at the end of the toe, back to the top of the vamp. Several parallel dotted lines (called "beading"), about an eighth of an inch apart, extend from these back to the heel, thus covering almost the whole of the outside. The shoe is varnished, and lined with slate-colored cottonette. The company's brand, in the shank of the shoe, together with the words "Made in America," is indented, instead of being embossed, as in marking goods for the home trade. But this was stipulated in the order. One-third of the rubber sole, at either end, is rough-surfaced. The shoes are marked by inches, instead of numbers, from 8 to 11, with intermediate sizes for every quarter of an inch. They are packed 100 pairs to the case.

In answer to questions Mr. William Sanford, of the New Brunswick company, said that it had been his impression that the wearing of rubbers in China was confined to the well-to-do, and that the limit in price insisted upon by the house through which the recent orders had come was evidence that something was now wanted for buyers of more moderate means. Mr. Sanford thought that the orders probably would have begun to arrive earlier but for the interruptions to business growing out of the Chino-Japanese war.

There is little reliable information in regard to the importation of India-rubber shoes into China. Of the twenty or more custom-houses, only two specify rubber shoes in their reports. The latest available figures from those districts are given below, and refer to pairs of rubbers:

Year.	Canton.	Kowloon.
In 1891	28,802	9,101
In 1892	39,461	22,013
In 1893	68,082	39,855
In 1894	54,970	27,298

The statistics from Shanghai record imports of "leather and rubber shoes," without distinction, ranging between 12,218 and 14,217 pairs for the above years. There are no statistics on this subject from Hong Kong. A few hundred pairs of American rubber shoes have been shipped direct to China nearly every year since 1858, but these have not been in the Chinese style. The British customs authorities do not specify shoes in their returns of the movement of rubber goods.

The efforts of the New Brunswick Rubber Co. to secure foreign trade, by the way, have not been confined to China. In 1884 they began to cultivate a market for rubbers in Japan, to which country they continue to ship goods. Two special brands are made for the Japanese trade—the "Nagasaki" and the "Yokohama"—and, these, like the shoes made for Chinese wear, are intended to be worn without any other form of shoe. Both these styles resemble somewhat a "lumbermen's over." One has only a heel-lift, and the other a regular boot-heel, but neither has the sunk heel inside. One style is varnished and the other is not; both are lined with bright scarlet.

THE SWELL YOUNG MAN IS "OFF."

THE Brockton (Mass.) *Enterprise* wails that in bad weather the swell young man has sorrow. He has to wear overshoes or rubbers. "Arctics make the feet look large, and they are clumsy and awkward looking, while rubbers—the kind you get nowadays—after a few days' wear look gray and poverty-stricken and are hopelessly out of shape. The best clothing made cannot prevail over the destructive influence, from an esthetic point of view, of the winter overshoe."

This is a libel on modern rubber footwear that has no foundation in fact. Better rubbers, neater rubbers, and more stylish rubbers are made to-day than ever before. The Brockton *Enterprise* is an unusually good paper, but on the rubber question it is hopelessly out of joint. If its swell young men will buy first grade, up-to-date rubbers and sponge them off every day, they will have no cause for complaint. On the contrary, it will not be surprising if they adopt rubbers for dress the year round. —*Shoe and Leather Gazette.*

HEARD AND SEEN IN THE TRADE.

A VERACIOUS chronicle of the rubber industry would make most interesting reading for many people besides those who have been concerned in its development. No imaginary stories of obstacles confronting inventors and pioneer manufacturers, or of rich rewards of success, would be needed to make the history entertaining. There is a good story of the fruits of energy, industry, and good judgment in the history of more than one of the big concerns, but the Woonsocket Rubber Co. is mentioned here because of the attention lately directed to it by the resignation of President Banigan, who helped to found it in 1867 and practically directed its course from that date. Mr. Banigan was a poor young man when, with not more than fifty hands, the new corporation began the manufacture of rubber wringer-rolls. But he was ambitious, and especially anxious to make rubber footwear, the great development of which industry he correctly forecasted. The business of the company increased rapidly, and the profits, instead of being wholly paid out in dividends, were put into new buildings and improvements. Stock dividends as high as 40 per cent. were paid in some years in addition to the regular cash dividend of 8 per cent. By 1882 there were 800 hands employed, at high wages, when the Millville mill was built, at a cost of about $750,000, without the stockholders being asked for a cent or missing a dividend. Ten years later the "Alice" mill was erected and paid for out of the surplus. In 1890 the capital was increased to $2,000,000, without a cent being paid in by the shareholders. A $100 share bought in 1865 was now worth $2000, besides having earned dividends regularly all the while. In 1893, when the company sold out to the United States Rubber Co., the price offered per share was $2\frac{7}{10}$ shares of preferred and 2 shares of common stock—par value $540—for each $100 share of Woonsocket stock, or $300 in cash. This was equivalent to $10,800,000 in United States Rubber stock, or $6,000,000 in cash, for a business representing a total money investment of $100,000. Most of the stockholders accepted the offer of stock in exchange. Do you wonder that the mere rumor of the late leader in this enterprise reëntering the rubber industry should affect the prices of stocks and cause widespread conjecture?

* * *

SOME day I may tell in these pages the story of a man who bought an interest in a new rubber company then working on a small scale, paying for it with a note for $25,000, which was discounted in bank by the other shareholders. The note was met at maturity, out of the profits which had already accrued to its maker, and those profits continued to accrue until he had actually drawn millions of dollars from the concern, and that without ever having put a dollar of cash into it.

But a big company has not always been essential to the making of money out of India-rubber. Perhaps no other small invention ever paid better than the ordinary rubber beer-stopper—the kind which is attached to the neck of the bottle with a wire, and is used over and over again as often as the bottle is filled. About twenty years ago the inventor of this stopper showed it to a German beer-bottler, doing a small business on the Bowery, in New York, anxious to find some little wrinkle to recommend his establishment to the trade. The rubber stopper seemed likely to do this, and the patent was bought for $1000. It was not long in attracting the attention of his competitors, who one by one asked to be allowed to pay for the privilege of using it, until the business of bottling beer on the Bowery was given up for the simpler one of collecting royalties on the patented stopper.

"How many of these stoppers are used in a year?" I asked a bottler still in the business.

"Nobody knows exactly," he said, "but I should think not less than 1000 gross of new ones daily, which counts up, 43,200,000 in a year of 300 days. These stoppers—rubber, metal core, and wire—cost only $1 a gross, but during the life of the patent on them the price was at one time $6 per gross. It never did cost more than $1.50 per gross to make them, and somebody must have made millions out of the idea. On the basis of my estimate, the brewers of the United States pay out not less than $300,000 a year for beer-bottle stoppers of this type alone, and there are several other styles."

In answer to an inquiry on this same point the editor of the leading bottlers' trade journal said to me:

"Three or four years before the patent expired on this beer-stopper, I made an estimate, with the aid of some of the leaders in the bottling trade, of the number of bottles which had been supplied with rubber stoppers, and we agreed that the fortunate little bottler on the Bowery could hardly have collected less than $6,000,000 in royalties on the patent which had cost him only $1000."

* * *

I ASKED Mr. G. L. Wiley, who is in charge of the New York office of the Standard Underground Cable Co. (Pittsburgh), whether their establishment of a rubber plant for the insulation of electric wires was due to any special increase in the demand for India-rubber for this purpose. "No," said he; "it was only to carry out more fully the policy of controlling as far as possible every feature of our manufacture. Our business is principally in wires and cables with the fiber insulation, but it has frequently happened that our customers would want in addition something in rubber insulation. Formerly we were obliged to buy from outsiders to fill such orders, and rubber-workers have been employed, with the proper equipment for their work, to make this course unnecessary. India-rubber was the material first used for insulation, and, up to a certain time, it led in popularity, but during the past few years the very great increase in the use of other materials, while the use of India-rubber has increased more slowly, has left the latter far in the background." Mr. Wiley said that, while his company had set up their rubber plant some eighteen months ago, they had not advertised the fact until now, in order that it might have time first to get into thorough working order. It is possible that the leaking out of some knowledge of this plant was the basis of the reports so persistently circulated a few months ago in regard to a rubber factory near Pittsburgh, to be controlled by the Westinghouse interests. Mr. F. S. Viele, manager of the rubber sales department of the company, at Pittsburgh, tells me that their rubber-covered wires are employed by telegraph, telephone, and burglar-alarm companies, by electric-light companies and contractors, and by street-railway companies, for interior, overhead, underground, and submarine use.

* * *

WHAT becomes of all the trade catalogues is one of the things past finding out. The question applies to catalogues of rubber goods, as well as to any other. There have been printed this spring in the United States not fewer than 1,250,000 catalogues and price-lists of rubber boots and shoes alone, and yet there are not enough in the hands of any company to supply one-half the

demand for them. They are supposed primarily to be for the dealers, of whom there are not 100,000 in the United States, and yet the supply of twelve or more to each dealer does not meet the wants of the trade. A single house applied lately for 50,000 rubber-shoe catalogues, and, although it is a large distributor of goods, the supplying of catalogues to the whole trade on the same scale would make necessary the printing of several millions more. Possibly the secret of the great demand for these little books is that they are now so attractively gotten-up that the children cry for them.

* * *

INDIA RUBBER toys of foreign manufacture no longer have the lead in this country, which fact is another tribute to the ingenuity and persistency of our own manufacturers. If it were a question of labor cost alone, the American toys would have no chance at all, since a franc or less abroad will secure labor in this industry that costs a dollar here. And yet the foreign toys are disappearing from our markets.

* * *

"MOST people in the East entertain wrong ideas of the importance of Pacific-coast trade, in whatever line," said a New York merchant long engaged in it. "The trade is really quite limited, compared with that of our great centers of population near the Atlantic. There is a fringe of population along the coast, but lying back of that is a great stretch of sparsely-settled country without any trade to speak of. All of this applies to rubber-goods, which are in good demand only in San Francisco and a few other points. The far northwest ought to be a good field for mackintoshes, on account of the great amount of rainy weather, but the people are not there to buy the goods. At one time there was a constant and rapid growth of trade with the mining sections, but now that the days of 'booms' have passed, the trade of mining towns has become a fixed quantity, with a very slow rate of growth."

THE MAN ABOUT TOWN.

THE ENGLISH TIRE SITUATION.

LAST month was reported the sale of the interests of the Pneumatic Tire Co., Limited—proprietors of the Dunlop tires—for £3,000,000, to a syndicate to be organized with a capitalization of £5,000,000. The share-list was opened to the public on May 11 and closed the next day, after the amount mentioned had been largely over-subscribed, some reports stating that twice the number of shares offered were bid for. The British investing public seem lately to have gone mad over the bicycle industry, but some excuse is afforded in the showing of profits made by the Dunlop concern. A month ago some statements were printed relative to the small amount of the original capital and the heavy dividends since disbursed. The figures below relate to the profits of the company, year by year, as set forth in the prospectus of the new syndicate:

In 1890	£ 2,660	In 1894	£ 157,183
In 1891	21,975	In 1895	210,008
In 1892	48,595		
In 1893	149,319	Total	£ 599,740
Profits on new issues of shares			185,228
Total net profits to September 30, 1895			£ 784,968
Profits from September 30, 1895, to April 25, 1896			215,986
Total net profits to April 25, 1896			£ 1,000,954

In addition to this enormous money-making concern, with a showing of over $1,000,000 of profits—in United States money—during the last six months of its existence, the new syndicate has acquired:

The "Clincher" tire patents, at the reported price of £1,000,000, including the royalties paid by the Palmer Tire Co., Limited.
The Westwood rim patents.
The Stafford Manufacturing Co.
Burton & Louden.
The Westwood Manufacturing Co.

As for the "Clincher" patents, the North British Rubber Co., Limited, will continue to manufacture under them, paying to the new owners royalties now calculated at £25,000 a year. The Palmer company are also paying royalties under the same patents at the rate of £3000 a year. In addition to the Dunlop tire-factory at Coventry, the Pneumatic Tire Co., Limited, had acquired the old Singer factory at Coventry, at which carriage-tires and motor-car tires are produced.

But with this magnificent showing, the new tire syndicate is not complete master of the field. The Palmer Tire Co., Limited, by the way, are reported to have declined an offer for the purchase of their interests, and on the day of the publication of the prospectus of the syndicate notice was given of the filing of a suit against certain manufacturers for the infringement of tire patents granted to Amos W. Thomas and others and now owned by the Palmer company. The first board of directors of the latter was made largely up of directors of the India-Rubber, Gutta-Percha, and Telegraph Works Co., Limited (Silvertown), and this company is believed still to be interested in the Palmer concern, which would indicate that these patent suits may be no trifling affair.

THOSE FLORIDA RUBBER-TREES.

TO THE EDITOR OF THE INDIA RUBBER WORLD: After reading the article in your publication of May 10, in regard to the India-rubber trees found in Florida, I have reached the conclusion that they are of the species which used to grow so luxuriantly on both sides of the footway over the big Brooklyn bridge, across East river. Had not the reckless boys been allowed to break down these trees by climbing them for bird's-nests, they doubtless would have been flourishing yet, sheltering grateful pedestrians from the fiery heat of the summer sun, and yielding enough rubber by this time to pay half the cost of the bridge police.

No doubt these Florida rubber-trees would grow magnificently on the roofs of our city houses, enabling every citizen fortunate enough to own a roof of any sort to become the possessor in time of a genuine roof garden, with the result that the hanging gardens of Babylon would be dwarfed in comparison with the upper parts of the New York houses. I wonder that the rubber trust hasn't taken up the idea.

G. TABAN.

New Haven, Conn., May 30, 1896.

INTERLOCKING TILING.

SEVERAL new boats which are to go into commission in the vicinity of New York city in the near future are to be supplied with the new patent interlocking tiling manufactured by the New York Belting and Packing Co., Limited. One of these is the *Adirondack*, to be the largest steamboat on the Hudson river, now building by John Englis & Son, at Greenpoint, L. I. The tiling will be used on the quarter-deck, the passages to the dining-room, and on the floors of the barber-shop and toilet-rooms. The new tiling will be used also on the new ferry-boats which the Pennsylvania Railroad Co. are to place in service at the Twenty-third street (New York) ferry. It has also been introduced lately into many private houses.

THE LATEST REVOLUTION IN PERU.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Recent news from Lima, Peru, is to the effect that the commander of the forces at Iquitos, in the province of Loretto, has revolted in favor of a federation with Brazil. Peru, the dispatch continues, has declared Iquitos closed, and an expedition against the insurgents is preparing by sea and land. The dispatch adds that Brazil probably will oppose the entry of the Peruvian men-of-war into the Amazon. The result of the revolution, the details of which to date are so meager, may have an important bearing upon the India-rubber market, sooner or later.

It is well-enough known that the principal supply of the best crude rubber is brought to New York by vessels that carry it 3000 miles from Pará, but it is not so well known that some of this rubber has to first come 3000 miles on the Amazon to reach this exporting point. The scene of the new revolution is likely to be in the upper rubber districts.

On account of the diminution of the original sources of supply on the lower Amazon and the increased demand for rubber, it has been necessary to invade the forests along the upper affluents. Outside of the Madeira and Purus rivers the most abundant supply comes from the Javary, which is the dividing line between Brazil and Peru. Both banks of this stream, the waters of which are impregnated with death-dealing fevers, are operated by native Brazilians. Naturally the influx of the enterprising Brazileros, who knew the value of India-rubber, were at first looked upon by the native easy going Perunas with suspicion.

It will be recalled that hundreds of miles of the territory now Brazil, almost to the Madeira, at one time belonged to Peru. The commission which in recent years settled the boundary dispute by making the Javary the line was composed of men on the part of the Brazilian government that knew of the coming wealth of these forests, but which were then thought useless by the far-off Lima officials.

The shrewd Portuguese agent on the part of the Rio government also knew more of the physical geography of those parts than his Spanish colleague from Lima. In the selection of the Javary it was supposed that the then unknown stream ran about due north to the Amazon, but in fact it reaches from far to the west, and therefore, through ignorance or indifference, Peru yielded another immense slice of her territory to Brazil, in addition to that which the Rio government claimed by right of occupation. This and the subsequent indifference of the Lima government to the interests of the native Peruanas are among the original causes for the present trouble.

The Peruanas, soon discovering the importance of the wealth of India-rubber forests of which they had been despoiled, set about to develop new rubber-fields in the vast area still left to them. The Ucayali is the principal river of eastern Peru. It extends almost due north for thousands of miles, being navigable for large boats to the Tambo—which is nearest to Lima—and by canoes another 1000 miles to Cuzco, the ancient capital. The innumerable affluents of the Ucayali are rich storehouses of India-rubber. There is enough to supply the New York market for a long time. It is only a question of the expense of collection and transportation from these now almost inaccessible forests.

Some three years ago THE INDIA RUBBER WORLD published an article descriptive of the objects and aims of the Peruvian-English combine, known as the "Peruvian Corporation." In view of the present troubles the predictions foreshadowed in that article are strikingly significant now. It is well enough known that W. R. Grace, or his interests on the Pacific, which are English, are in control of the Peruvian Corporation. Grace's organization obtained absolute control of the Lima government through the late General Caceres, the president, who was recently deposed by Pierola, the present occupant. The opposition to Caceres was based largely on the charge that he had sold out his people to this syndicate. One of the principal lieutenants of Pierola in the overthrow of Caceres was the present leader of the Eastern Peruvian revolt.

While the particular grievances or immediate cause is not given to the public in the dispatches which are "censored" at Lima, it is clearly a continuation of the war between the two sections of Peru—the east and the west—whose interests are entirely distinct. Lima having lost her nitrate beds in the war with Chile; with her rich silver mines in the hands of English capitalists and operated by foreign machinery; with all of the American built railroads turned over to the Peruvian Corporation, as well as a large percentage of her custom-house receipts, the government and the people are indeed poor. In order to obtain money from the English corporation, the Lima government proposes to grant large tracts of land in Eastern Peru. It is said that hundreds of miles of lands on both banks of the Ucayali and other streams have been given to the Peruvian Corporation.

The Lima government, always dependent upon her nitrate and silver mines, knew but little of the wealth of her forests east of the Andes, and was induced to sacrifice the most productive part of her territory. The natives of Eastern Peru—which comprises the immense water-sheds of the Amazon—having learned of the value of their section, have combined to resist its being taken from them by the present government. The Americans and foreigners generally on the Amazon, with the Brazilian interests, are of course aiding and abetting the revolt of the natives against their distant Lima government.

The vast expanse of territory embraced in Eastern Peru, known as the department of Loretto, whose natural outlet is with the current or down stream to the Atlantic, is separated from the Lima government by the three ranges of the almost impassable Andes. These revolutionists can hold their own against the weak Lima government, by simply guarding a few passes in the Andes. They cannot be dislodged by an army as long as their ammunition holds out. To reach them by the rear Peru must send gunboats around the Horn or straits and ascend the Amazon for 3000 miles, to be then captured or destroyed by torpedoes and appliances furnished by their sympathizers through whose territory they must pass.

The interests of North Brazil, therefore, in conjunction with Eastern Peru and part of Ecuador, may some day work together in forming a separate government of all the states bordering on the Amazon—an area, greater in extent than all of the United States east of the Rocky mountains. This vast territory watered by streams furnishing 50,000 miles of inland navigation would be easily self-sustaining from the natural products of India rubber—cocoa, cotton, coffee, hides, and sugar. These are articles of prime necessity. The rubber alone in this territory would if properly conserved support a distinctively "rubber republic"—all which should be known as the "Republic of Amazonia."

K.

GEO. B. SCOTT & CO. (New York) have taken their agency for rubber cements and their rubber brokerage business to Chicago, Ill., their office being at No. 155 Washington street. They have also taken the agency for the Gould Commercial Co. for their territory, that company in turn handling the Scott cements in the East.

NEW TRADE PUBLICATIONS.

CATALOGUE OF TUBING-MACHINES AND INSULATING-MACHINES Manufactured by John Royle & Sons, Paterson, N. J. [Flexible cloth 4"×6". 48 pp.]

THE invention of machines for the production of seamless rubber tubing marked an important advance in more than one branch of the India-rubber industry. In this admirably-arranged catalogue are described with illustrations a variety of sizes of machines, ranging from that employed in the manufacture of stems for artificial flowers to that necessary for the largest fire-hose lining. The catalogue embraces an outline of the requirements of the manufacturer of tubing, in respect to power and speed of the machinery used, and temperature under conditions susceptible of control, and then points out the efforts of the firm named to meet these requirements. The delicate measurements of work of this kind are indicated by tables showing the variations in sizes of cores by sixty-fourths of an inch.

About half the space in the catalogue is devoted to machines for covering electric wire and cables with seamless insulating compounds of India-rubber, Gutta-percha, and other plastic materials. In general appearance these machines closely resemble the tubing-machines already referred to, the chief differences growing out of the fact that in the insulating-machines it is necessary not only to force the compound directly ahead and outside of the machine, but to pass the wire or cable through the die at the same time as the compound. There is, on the whole, much information of practical value in this little book, appropriately illustrated with views of the machines described. Special attention has been called to the catalogue for the reason that, although the firm have been for years in the business of supplying rubber machinery, this is their first publication in the line to which it belongs. It has been copyrighted.

PRICE-LIST OF RUBBER-COVERED WIRES AND CABLES MADE BY The Standard Underground Cable Co., Pittsburgh and New York. March, 1896. [Paper, 4"×7⅝". 8 pp.]

INFLUENCED by the increasing demand for insulated wire for interior use on telephone, telegraph, electric-light, and power circuits, the company named above have recently built a large addition to their plant and installed a plant for the manufacture of rubber-covered wires, now under the supervision of an expert in this branch of the rubber industry. Their method of insulation is to cover the wire with a protective tin coating, to which is applied a fine grade of rubber cement, which causes the outer coating of rubber compound to adhere to the conductor. This list gives prices of insulated wires of different dimensions, with and without an outer covering of braid, with telegraphic code for ordering.

MACKINTOSHES AND RUBBER CLOTHING. PRICE-LIST, SPRING, 1896. William Morse & Co., New York. [Paper. 3¼"×5½". 21 pp.]

THE firm here named have developed their business as rubber jobbers until they are now able to contract with manufacturers of the highest standing for supplying special lines of mackintoshes and rubber clothing. Careful attention seems to have been given to every detail of this branch of their business, even to the choice of striking and pleasing names for the different styles, and especially in ladies' garments. The list is illustrated.

SUMMERINGS. [HODGMAN RUBBER CO., NEW YORK. PAPER, 4"×5". 16 pp.]

THIS illustrated booklet is intended as a reminder of the articles in the India-rubber line designed for increasing the pleasure and convenience of people who are away from home during the summer months. In addition to the long line of sportsmen's outfits, attention is called to the mackintosh golfing-suits, mackintosh lap-robes and steamer-rugs, folding rubber bath-tubs, portable shower-baths, and other toilet accessories which can be more readily carried by travelers when made of rubber.

RUBBER SPECIALTIES CATALOGUE, JANUARY 1, 1896. H. O. CANfield, Bridgeport, Conn. [Paper, 3" x 5". 24 pp.]

THIS catalogue opens with a brief description of mold-work in general, with some considerations as to price. Then follow illustrations and price-lists of basin and bath-tub plugs, bibb-washers, plunger-rings, different kinds of flanges and rings, gaskets, washers, bumpers, and fender tips, tubing, pipe-unions, pump-valves, and a great variety of other goods.

OTHER PUBLICATIONS RECEIVED.

LOANDO Hard Rubber Co. (Boonton, N. J.)=Catalogue of Specialties Manufactured for Electrical Insulation. 9 pp.

=The Tinkham Cycle Co. (Nos. 306 310 West Fifty-ninth street, New York)=Concerning the "Delivery" of Light Merchandise. 28 pp.

=Liberty Rubber Shoe Co. (No. 81 Reade street, New York; factories, Setauket, L. I.)=Gross Price-List, season 1896-97, Monarch grade. 4 pp.

A PNEUMATIC-TIRE ASSOCIATION.

ON the invitation of Col. Theodore A. Dodge, there met at the handsome club house of the New Manhattan Athletic Club, New York, on the evening of May 28, a notable gathering of rubber-tire manufacturers. There were present officers of the following concerns: The Boston Woven Hose & Rubber Co., Morgan & Wright, the Pope Mfg. Co., the Hartford Rubber Works Co., The New York Belting & Packing Co., The Hodgman Rubber Co., the Newton Rubber Works, the American Dunlop Tire Co., The Combination Roll & Rubber Co., the Mechanical Fabric Co., Gormully & Jeffery, The B. F. Goodrich Rubber Co., the Columbia Rubber Works Co., the New York Tire Co., the Kokoma Rubber Co., and others.

The meeting was called to order by Col. Dodge, who in a brief informal speech outlined its purpose. He then called for a nomination for chairman and secretary and the choices fell upon Colonel Perkins of the B. F. Goodrich Rubber Co., and Mr. Kirk Brown of the American Dunlop Tire Co., respectively. Col. Perkins proved himself a dignified and able presiding officer, getting at once at the root of matters which resulted in a unanimous vote to form a permanent organization with Col. Dodge as its first president and Mr. Kirk Brown as secretary. Two committees were appointed, one to draw up a form of constitution and by-laws, the other to submit a form of guarantee on tires that should do away with existing evils in that line. The adjournment was to one of the private dining rooms of the club, where was in readiness a dinner to which the guests did full justice.

The manufacturers present represented not less than $25,000,000, of capital.

THE Pope Manufacturing Co. (Hartford, Conn.) state that the floor-space in their factories has increased since 1889 from 116,942 to 674,925 square feet, and the number of their employés from 283 to 2340. These statistics include the Hartford Rubber Works, though they had not been absorbed by the Pope management in 1889. The company are now building for the rubber works a two-story office 65×45 feet; a three-story factory 100×60 feet; a storehouse for rubber of one floor, 65×100 feet; and an oil-house, 14×16 feet.

THE PRESENT AND FUTURE OF BALATA.

AT the present time, so says the *Chemical Trade Journal* (London), French capitalists are trying to make a profit out of the high prices of India-rubber by utilizing balata, which for many years past has been employed upon a small scale for a variety of purposes. There are at least two descriptions of balata, the one white and the other red, the latter being known in the English colonies as the "bullet tree," a corruption, no doubt, of the native word "bolletrie." The species being exploited in French Guiana is the *Mimusops balata*, a magnificent tree which is peculiar to all the Guianas. It attains a height of from 90 to 100 feet. The wood is very much sought after for cabinet-making on account of its beautiful color, while it has also the property of resisting the depredations of insects. These merits are almost fatal to the existence of the tree as a rubber-producer, and in some of the South American States forests are being cut down without any regard to the profit that can be secured by tapping them in an intelligent manner. In Venezuela the tree is also to be found in great abundance, and, in point of fact, it grows very freely in the mountainous districts of the northern states of South America. Nevertheless, in British Guiana, immense forests are found in the low-lying districts of swampy Canje. In the report on the balatas, published a little while ago by M. Hayes, a colonizing agent, it was said that there was a sufficient expanse of forest in the Guianas to allow of the exploitation of rubber being carried on for centuries. It was, however, necessary that something should be done to prevent the wholesale destruction of the *Mimusops balata*, which would very soon disappear if allowed to be cut down indiscriminately for its wood, and one of the richest and most prolific resources of South America would thus be destroyed. In fact both in Venezuela and in Dutch Guiana the trees are cut down with a view of collecting as much of the juice as possible, and in French Guiana the same process was for a long time employed. When the trees are thus felled circular cuts are made every 12 inches and receptacles are placed underneath to catch the juice. The bark is also sometimes removed from the tree and the juice extracted from it by presses.

In British Guiana it is only allowed to tap the trees without felling them, and a similar restriction is now imposed in the neighboring French colony. The English method of collecting the rubber is to make horizontal incisions half way round the tree and connect them with a vertical channel to allow of the fluid flowing down to the receptacle, but a better method is said to consist in cutting out rectangular pieces of bark from which the juice is extracted by presses. Alternate rectangles must of course be left on the trunk, and these can be removed at the next tapping when the exposed parts of the tree are sufficiently healed. To secure perfect vitality in the tree it is preferable to only tap it over a third of its circumference every five years. If properly carried out the collection of balata rubber is a very profitable industry indeed. One traveler in French Guiana, who was accompanied by three men, collected 666 liters of juice in 119 days which produced on coagulation 360 kilos of rubber. Had the men been able to give their time exclusively to the collection of rubber there is no doubt that the amount would have been doubled or trebled. It is, indeed, estimated that a single balata will supply a kilo of rubber every year without suffering to any appreciable extent from the tapping. The system usually employed for securing coagulation is to pour the liquid into large shallow pans about four inches deep. A hard crust very soon forms at the surface, and this is removed to allow of another crust forming, and so on until the whole of the juice is solidified. The crusts are then hung on lines to dry. The balata rubber, through perhaps slightly inferior to caoutchouc for certain purposes, and notably as an insulating medium, is yet specially adapted for a great many uses, such as machinery belting, mackintoshes, surgical appliances, etc., and its merits are so far recognized that a considerable trade has grown up during the past two or three years in the Guianas. While the exports of balata rubber from British Guiana in 1881 were only 41,000 pounds, in 1889 they were no less than 363,480 pounds and though the total fell in 1892-93 to 237,450 pounds, the value has been rapidly increasing, and for the two years named was £20,605. In Dutch Guiana the industry has not been carried on in such a systematic manner. Nevertheless, two American companies are exploiting the balata on a large scale, and are sending the product to the United States. That the industry can be made a very profitable one is seen in the price paid for the rubber, which varies, in Paris, from 3 francs to 8 francs a kilo according to quality. It is evident, therefore, that while industrial enterprise is under a cloud in South America, it may be to the interests of capitalists to turn these balata resources to account, the more so as rubber is one of those things that are not likely to suffer depreciation to such an extent as to make its production unremunerative.

BALATA CONCESSIONS IN GUIANA.

THE United States consul at Cayenne, Mr. Leon Wacogne, writes in a recent report: "An interesting point for the future development of French Guiana was debated some years ago without any practical result, viz.: the working of balata gum, similar to, and even better, than the ordinary India-rubber. A scheme of regulations for grants of concessions was elaborated in 1892 by the director of the interior; but they were soon found to be defective, and a new plan, stimulated by the discussions of the council-general, is now being perfected and it is thought it will answer all the requirements of future grantees in helping forward their searches. On December 5, 1895, thirty concessions for the balata industry had been granted to people in the colony and two or three granted in France and Europe. A concession has just been given to the representative of an important company of New York (Franco-American Rubber Co.) under special conditions agreed upon between Mr. Joseph M. Jean and the director of interior. Up to the present, the above company is in the 'prospecting' stage; however, it seems to be satisfied with the first results, and was able in a very short time to ship to New York about 308 kilograms of India-rubber (*gomme de balata*)."

A MARTYR TO THE RUBBER INDUSTRY.

IN the book "Fire and Sword in the Soudan," just published, the author, Slatin Pasha, who, with difficulty and great risk of his life, escaped from his imprisonment by the mahdi and his followers, reports about the last European who still lingers in prison in the mahdi's country. This man is a German merchant by the name of Neufeld, who became a sacrifice of the crude-rubber trade and fell into the hands of the mahdi. Neufeld started in February, 1887, from Wady Halfa to the north of Kordofan, to place himself in possession of the large quantities of India-rubber stored there. His caravan got astray and all were made prisoners. Slatin's diplomatic intercedence saved his life, but his nine years' imprisonment has been a chain of continuous suffering, which words cannot express. It is hoped, that he, too, will be successful soon in escaping from his captors.—*Die Gummi-Zeitung* (*Dresden*).

A GOOD SEASON FOR SMALL HOSE.

AN unusual activity has prevailed, since the beginning of the season, in garden-hose. This line of goods is particularly susceptible to weather conditions, and the current spring months have presented just the characteristics which tempt the users of small hose to place their orders. With what are called seasonable goods in general, it may be stated that, as a rule, if the sales should begin late, the loss of business at the beginning of the season can never be made good in that year. This seems especially to apply to sales of garden-hose, for which reason manufacturers and jobbers have much cause for satisfaction in the heavy movement in this line which began with the end of winter and still continues. One large manufacturer of mechanical goods who was interviewed during the past month claimed to be doing only a fair trade in garden-hose, but every one else spoken to on the subject was emphatic in estimating the season's business up to date far in advance of that for any recent year. A jobber stated that at the first of June he was 60,000 feet behind his orders, on account of the delay of the manufacturers in supplying him.

There was warm weather earlier this season than usual, and it has been dry as well as warm—conditions which lead people to prepare to sprinkle their grounds, whether the date be early or late. By the way, there is a steady increase in the use of hose, due to the constantly-growing number of towns supplied with waterworks. Another point which has been suggested is that the widespread introduction of the electric railways has resulted in extending the area of many towns, and leading citizens who formerly lived on crowded streets to establish themselves in homes surrounded with lawns and grass-plots. With the extension of city limits comes additions to the length of water-mains, and an increased demand for hose. It would probably surprise one who is unacquainted with the trade to see how much garden-hose is purchased by householders in New York—a city which to the casual observer is so closely built up as to allow few spaces where even a blade of grass can grow, at least on private premises. But the crowded condition of the city affords only a greater reason for the appreciation of every grass-plot that does exist, and some of the uptown retail stores dispose of a pretty stock of hose within a season.

While there is every grade of hose in the market—good, bad, and indifferent—the sale of good hose still holds its own. In a town where waterworks have been lately introduced the sale of cheap hose is likely to be in the lead, since the quality of such goods cannot be judged merely by their appearance, and price determines the choice. But a season or two of unsatisfactory experience with bad hose is apt to make the householder listen to the recommendation of a better grade at a higher price. The extent of the trade in small hose is an open question. It is not enough to form a leading feature of the output of any factory, yet all the mechanical-goods people pay more or less attention to this line. It is a staple line, always in demand, more or less, it can be carried over from season to season, and its manufacture can be taken up now and then in dull periods at the factory, serving to keep the works going in the absence of orders for heavy goods. Then the goods sell themselves, so to speak, instead of requiring such pushing as some other lines do.

RUBBER AND LEATHER TIRES.

OF late the subject of the future of the leather tire has come to be much discussed in cycling centers. At least two firms in Canada are now manufacturing outer leather tires with an inner tube of rubber. Both firms have given a good deal of study to the matter, and claim to have produced a leather which will make tires with all the advantages of rubber without any of its attendant drawbacks and some points of its own over the rubber. Of course the tires will necessarily have to have an inner tube, because it is obviously impossible to make a leather tube air-tight. The question of resiliency in the tire is the point upon which its utility seems to turn. It has been established beyond cavil in both the leathers mentioned that they are waterproof, tough, not so liable to puncture, more durable than rubber, and much cheaper; but the resiliency has yet to be established. One leather is made by the chrome process, while the other mode is a secret to the makers. There is little doubt that the question of resiliency will be settled to the satisfaction of both makers and riders, and when it is the leather tire will be with us in very large numbers. A considerable number are now in use in Toronto, and various parts of the Province, and are, we understand, giving very good satisfaction.—*Canadian Shoe and Leather Journal.*

THE QUILT-STITCHED BELT.

WHAT is known as the "Gladiator seamless stitched belt" has just been patented by its originators and manufacturers, the New Jersey Car Spring & Rubber Co. This belt is already a popular seller, has been well advertised and when first brought out was described in THE INDIA RUBBER WORLD in detail. The style of stitching in the "Gladiator" is exactly described by the word "quilting." That is, it is double stitched, the lines crossing each other obliquely. The machine by which this is done is a marvel of ingenuity and was one of the last accomplishments of the late superintendent Mr. Thos. A. Eagan.

GEORGE WATKINSON & CO.

THE new rubber shoe factory at Philadelphia is nearly ready to begin upon the initial work of washing and bunking down rubber. It is a fine three story brick structure 200×50 ft. in dimension, with a boiler house 40×30 feet. On the ground floor is a Corliss engine of 525 horse power built by the Philadelphia Engineering Co., with Climax boilers to match. The equipment of washers, grinders, and calenders is from the Birmingham Iron Foundry, Birmingham, Conn. With the machinery now in place the factory can easily turn out 5000 pairs of shoes a day, and in case there is need of more mixers or calenders the foundations are already laid for a much greater output. The location of the mill is exceptionally favorable. The land embraces some four and one half acres on the Schuylkill river, with sixty feet of water front, the water being sixteen feet deep at low tide. There are spur tracks to the factory from both the Pennsylvania, and the Baltimore & Ohio systems. Labor is abundant, cheap, and of the best character, coal is low and shipping facilities the best. Mr. Watkinson expects to be running the mill by July, and will devote himself chiefly to specialties. They will bear the brand that is here printed for the first time. Speaking of his enterprise the genial and energetic founder said: "I am not in this to antagonize any one else but to do a conservative business on my own responsibility. There is plenty of room at the bottom."

A FINE RECLAIMING PLANT.

BUT a short time ago the press chronicled the destruction by fire of the rubber reclaiming plant of the New Jersey Rubber Co., at Lambertville, N. J. Two months later General Manager E. R. Solliday had erected new brick buildingsand added a new equipment of machinery, and the factory was again in operation and turning out even more stock than before. The editor of THE INDIA RUBBER WORLD recently visited the plant and met Mr. Arthur A. Wood, the secretary, and D. J. Price, the superintendent. Under their friendly guidance the factory was inspected from attic to cellar and its points of excellence made a most favorable impression upon the visitor. The machinery is run by water power, and is situated so close to the tracks of the Pennsylvania R. R. Co., that cars are unloaded right into the main buildings. The factory also has a full equipment of crackers, grinders, washing tanks, fiber-separators, magnetic machines, vulcanizers, etc., etc. The company reclaim waste rubber of all kinds and are running nights to keep pace with orders.

NAVY YARD HOSE SPECIFICATIONS.

THE specification board early in the year sent to the Navy Department specifications relating to supplies for the NewYork Navy Yard. The Secretary of the Navy rejected many, but approved those relating to a large purchase of hose. To show the completeness of the list of requirements THE INDIA RUBBER WORLD has been requested to publish the following as a sample:

1. The hose is to be rubber-lined cotton, woven or knitted (or both combined) fabric, multiple or jacketed seamless, with couplings complete.

The internal diameter is to be two and one-half (2½) inches. Length measured over all is to be not less than fifty (50) nor more than fifty-two (52) feet.

Measurement to be taken after submitting the hose to one hundred (100) pounds water pressure to straighten it and then relieving it of all pressure.

Weight per section with couplings shall not be less than fifty-two (52) nor more than sixty (60) pounds.

2. The lining is to be of fine Pará rubber, not less than three (3) calendered, in one solid body, not less than one-sixteenth (1-16) inch in thickness, exclusive of cement or other backing.

The tube before insertion is to be smooth and well made; it is to be of uniform thickness and quality throughout its length, and is to have a well-made lap.

The rubber is to show upon analysis between forty-five (45) per cent. and fifty-five (55) per cent. of ash, the balance to consist only of sulphur and fine Pará rubber.

Only such freedom from corrugation in lining is to be required as can be procured by the best methods of lining, which are to be employed, viz.: By the proper insertion into a good woven or knitted fabric or both combined, of a rubber tube of the required thickness, smoothed before insertion, properly cemented for adhesion with the best quality of cement for the purpose, and such degree of vulcanization as will produce best and most durable results.

3. Cotton cover is to be of best quality Gulf or Peeler cotton, well and evenly and firmly woven or knitted, or both combined, into a multiple or jacketed seamless fabric, to be free from unsightly or injurious defects, or defects of any kind except such trifling ones as are incident to the best practical manufacturing.

4. Each length to be fitted with the Navy Standard Couplings, eight (8) threads to the inch, which shall be made of composition consisting of nine (9) parts of copper to one (1) of tin, to be smooth finished with full sized waterways and the couplings on each length shall not exceed five (5) pounds in weight. A margin of a quarter (¼) of a pound being allowed. Each length of hose to be furnished with a galvanized wrought steel spanner.

5. The maker's name, with the year and month of manufacture and the grade or quality, to be stenciled in two (2) places on each length of hose, the marks being four (4) feet from the couplings. The marks to be red and the letters one (1) inch high.

The couplings to be stamped with the same information in letters one-quarter (¼) of an inch high.

6. Tests:

I. The hose to be stretched out horizontally and on a clean surface for inspection, connected with the pump and filled with water, leaving the air cock open, allowing the air to escape, after which the air cock is to be closed and a pressure of one hundred (100) pounds per square inch is to be applied, the air cock is then to be opened, and when the gauge shows zero, the test is to be begun by taking original measurements.

II. Each length, with couplings attached, to be subject to a pressure test of two hundred and fifty (250) pounds to the square inch to expose imperfections, and insure proper attachment of the couplings.

III. From each delivery of ten (10) lengths one section will be selected by the Board of Inspection, and be further subjected to a test of four hundred (400) pounds to the square inch. For deliveries of less than five (5) lengths, the Board of Inspection may waive this test if satisfied that the hose is of a quality desired.

IV. The hose, while under test laid in II and III shall not leak, sweat nor break the threads of the cotton cover; it shall not contract in length or diameter; it shall not increase its external diameter more than one-eighth (⅛) inch at any point. The limit of elongation for each length shall be forty-five (45) inches under II and fifty-five (55) under III, and in both instances, each length must run out nearly straight under pressure without turning more than two (2) turns, and must not rise from the floor nor writhe.

V. Each length must coil within a circle whose diameter does not exceed thirty (30) inches.

VI. A piece of the rubber cut lengthwise of the lining one-half (½) inch wide, and four (4) inches between the jaws, must stretch to four (4) times its own length (with a variability of four (4) inches more or two (2) inches less) with a pull of ten (10) pounds and it must be capable of stretching to six (6) times its own length (with an increased pull) without breaking; and when released, the rubber must return in one (1) minute to within one half (½) inch of its original length of four (4) inches.

Test piece may be cut from any part of the length of the hose the inspector may choose, and if the test is satisfactory, that particular length will be accepted by the government.

7. All fabrics to be antiseptically treated, a written guarantee must be given to that effect by the manufacturer.

8. If at any time during a period of two (2) years from the date of delivery of a lot of hose, a section, or sections of it, burst or show signs of weakness which is evidently due to defects of manufacturer, and not at all incident to the customary wear and tear of use, such quantity of defective hose shall be replaced by new hose by the contractor without further cost to the government.

The defective hose shall be sent to the navy yard nearest the place of its purchase and the contractor from whom it was bought shall have ample opportunity to inspect and test the defective portions before replacing them by new hose.

9. The successful bidder shall be notified when and where the tests are to be made and will be permitted to be represented as a spectator when said tests are made.

In case he objects to the results of the tests, he may ask for expert examination, in which case the government, if it deem his request well founded, shall appoint an expert, the contractor one expert, and in case the two cannot agree in a finding they shall appoint a third; and the result of said expert examination shall be binding and final.

The expense of said expert examination shall be borne by the loser.

BUSINESS is booming at the factory of the Home Rubber Co. (Trenton), and it is reported that they have refused to accept a large order for hose owing to the number of orders on hand. They are also very busy on tires.

RUBBER EXHIBITS AT THE BERLIN EXHIBITION.

ALTHOUGH Berlin can hardly be called the seat of the rubber industry in Germany, still this branch is by no means behind other industries, in enterprise and importance. The Vereinigte Berlin-Frankfurter Gummi-Waaren Fabriken, is about the only firm exhibiting any accessories in the bicycle branch. Among other things they exhibit Elliott's pneumatic tire and a neat break, composed of two little rubber rollers set in metal. The firm besides makes a very fair exhibit of miscellaneous articles, including woven cotton hose, of the Boston Woven Hose & Rubber Co.'s system, all the well known systems of packing, hat forms, miners' outfits, hard rubber plates and pumps for vinegar and chemical factories. A large rubber couch roll is, perhaps, the most notable article exhibited by this firm. E. Kübler & Co., proprietors of the Norddeutsche Gummi Fabrik, have also a very creditable display. This firm makes a specialty of technical articles for chemical and physical purposes. They exhibit two novelties; rubber soles for brewers and rubber back for moldings. At a neighboring exhibit is a new device, in the shape of a rubber cushion rim for the bottom rim of slop pails, to keep the bottom dry and prevent slipping while emptying. There is also an attempt making to introduce the use of rubber sandals, also exhibited here. Ernst Dobler Gebr. made decidedly the best display of hard rubber articles. A spiral hose of four atmospheres, made for Krupp in Essen, is a nice piece of work. An automatic apparatus for separating acids, is a receptacle with a hardened rubber coating, feeling like metal to the touch. Fonrobert, a firm doing a large retail trade, exhibit mats, carpets, bath tubs, etc., but nothing new. S. Herz, manufacturer of rubber goods for technical purposes, exhibits some very nice gas tubing with spiral wire inside and outside, also pneumatic tires, spiral suction tubes, rubber chair seats, some beautifully made ten pin balls, sword sheaths of hard rubber, waste pipes and spiral, cloth covered tubing. Gläser and Gross make a very good display of small articles, non-kinking tubing and Germania pneumatic tires. Schwanitz & Co. have a fine exhibit, including rubber weights, coal pails and discs. The Berlin Rixdorf Gummi Waaren Fabrik exhibit a spiral suction, seamless hose 31 meters in length, and also a 31 meter, seamless garden hose. This comprises pretty much all in the rubber branch. Some of the largest manufacturers of Berlin have not exhibited; indeed the great manufacturers in all branches have been loath to display their goods, it is said partly from lack of enterprise; partly from fear lest their goods should be copied.

LOEWENTHAL & MORGANSTERN PLANT SOLD.

ON June 3d, the rubber reclaiming factory formerly owned and operated by Loewenthal & Morganstern, was sold at public auction. The property consisted of brick buildings, ground lease, steam plant of four boilers aggregating some 335 h. p., engines, pumps, electric light plant, machinery for rubber recovery consisting of 9 grinders, 2 crackers, 3 large vulcanizers, cooking tubs, centrifugals, sand separators, etc., etc. Besides this there were tools and furnishings in great variety. The property which cost $75,000, was bought for $7600, by the New Jersey Car Spring & Rubber Co., who will use it as an auxiliary to their plant in Jersey City, and in addition will do their own reclaiming.

TRADE AND PERSONAL NOTES.

THE Goodyear Rubber Co.'s store at Buffalo, N. Y., was among the sufferers from a fire on the evening of May 4, which greatly damaged the four-story building Nos. 104-106 Pearl street. The Goodyear company occupied half the building, carrying a stock of rubber footwear and clothing, mechanical goods, and sundries, valued at over $100,000. The fire started in the other half of the building. The insurance companies settled by paying $27,000 which practically covers the loss. A new store has been opened temporarily at Nos. 124-126 Pearl street, where the sale of the stock damaged by water is in progress. It will be considerable time before the old store can be occupied again.

=The Home Rubber Co. (Trenton) are fitting up handsome offices at their factories, as well as extending their plant by further building.

=The Picher Lead Co. (Chicago) are especially fitted for the production of lead products that exactly suit the requirements of the rubber manufacturers. They are now supplying the trade with sublimed lead, blue lead, and a high grade of litharge and report a constantly increasing trade.

=The Gutta Percha & Rubber M'f'g. Co. (Toronto) are making an enviable reputation on their "Pyramid" brand of "Bluestone High Pressure" packing.

=The season for hose goods has developed an extraordinary demand for the "Simplex" hose couplings and menders manufactured by King & Knight, Boston, Mass.

=Mr. Geo. F. Hodgman, Prest. & Treas. of the Hodgman Rubber Co. (New York), has been quite ill, but it is gratifying to note that he is now fully recovered and again at the helm of his prosperous business.

=The editor of THE INDIA RUBBER WORLD recently had an interview with Mr. A. M. Stickney, president of the Wellman Sole Cutting Machine Co., regarding his latest trip among the European rubber factories. Mr. Stickney's observations were so interesting and he is so well fitted for the task that he has been prevailed upon to put some of the facts upon paper for publication which will be given our readers at an early date.

=Mr. Mills, of the W. H. H. Peck Co. (Cleveland, O.), was a recent visitor to Boston and New York, and it is said placed some large orders for rubber goods in both cities.

=The "Jenkins '96" packing made by the Jenkins Rubber Co. (Holyoke, Mass.) is said to be a decided winner.

=A fire was discovered in the pattern-room of the Boston Rubber Co., at Chelsea, Mass., on May 9, but was speedily extinguished. The damage did not exceed $700.

=The fire at New Brunswick, N. J., on May 7 was in the quarter of the town in which the factory of the United States Rubber Co. is located, but this was not damaged, as was stated in some of the reports published.

=A fire in the factory of the Toronto Rubber Shoe Co., at Parkdale, on the night of April 21, did damage to the extent of $30,000, which is covered by insurance.

=The Boston Rubber Shoe Co., according to an English journal, keep a stock of 6000 or 7000 cases of their goods in the hands of their London consignee, for the prompt supplying of their foreign trade.

=At the works of the National India Rubber Co. (Bristol, R. I.) there are prospects for a lively season. About 10,000 pairs of shoes are being made daily, and the clothing department has received large orders.

=The Reeder Brothers Shoe Co. (Grand Rapids, Mich.), organized as a stock company about three years ago, are about to be dissolved. Three of the members—George H. Reeder, J. P. Reeder, and Milton Reeder—will continue business at the same location as a copartnership under a firm name not yet announced. The stock of leather shoes is being closed out, and the new firm will handle rubber goods exclusively. They may add rubber clothing. A letter to THE INDIA RUBBER WORLD reports that the new arrangement has not been perfected, but is likely to be very soon.

=The North British Rubber Co., Limited (Edinburgh), are making brown rubber overshoes, in imitation of the color of tan leather shoes.

=George Davis and F. H. C. Miles, who control some patents in Canada, England, and the United States for the manufacture of non-slippable rubber footwear, designed to give a firmer hold on ice, have been prospecting in the Dominion for a suitable location for a factory. They have decided in favor of St. John, N. B., and are trying to secure $150,000 of capital. They have also a patent for the manufacture of bicycle tires.

=Fifteen shares of stock in the New York Rubber Co., offered together with other securities, at the New York Real Estate Exchange, on May 20, brought 120.

=The Hodgman Rubber Co. have gotten up a clever advertising novelty in the shape of a button, the rim of which is of India-rubber, in imitation of the Hodgman single-tube tire.

=The Gutta-Percha and Rubber Manufacturing Co. (Toronto) have secured a contract for supplying 800 feet of Baker fabric hose to the fire-department of Windsor, Canada.

=The Pittsfield Rubber Co. is the style of a retail rubber-goods house lately opened at No. 128 North street, Pittsfield, Mass.

=The Marlboro Rubber Co. (Marlboro, Mass.) have closed their bicycle branch at St. Augustine, Fla., and H. G. Wheeler, who was in charge of it, has returned home.

=The Woonsocket Rubber Co.'s "Alice" mill resumed work on May 11 and the mill at Millville on May 18, after having been shut down since January 18—the longest period of idleness in the history of the company. The resumption of work was welcomed not only by the employés, but by tradesmen and the whole population of the two towns, the business of which is largely dependent upon the money dispersed on the rubber company's large pay-rolls.

=The factory of The L. Candee & Co. (New Haven, Conn.) resumed work on full time during the week beginning May 11.

=The Boston Rubber Shoe Co.'s two factories at Malden, Mass., began work again on May 18.

=C. J. Bailey (Boston) is doing a rushing business in selling "Vim" tires.

=Mr. S. Reineman, middle-states salesman for the Home Rubber Co., spent a week in Trenton and New York recently.

=Mr. Herman Reimers, of the firm of Reimers & Meyer (New York), has gone to Europe for the summer. He was accompanied by his family and had Mr. H. Scmok, of the Pará firm of Prusinelli, Prusse & Co., as a fellow passenger.

=The Peoria Rubber Mfg. Co. (Peoria, Ill.) have in the city of Indianapolis a fine salesroom, and in connection with it a bicycle riding school.

=Mr. Orr, for some years connected with the *Review*, of Grand Rapids, Mich., has disposed of his interest in the paper and will remove to Duluth, Minn., where he will start in the manufacture of rubber goods.

=The Alpha Rubber Co. (Montreal, Canada) have removed their factory to Hochelaga and opened a business office and sample-room at No. 335 St. Paul street, Montreal.

=Mr. Wheeler Cable, President of the Cable Rubber Co. (Boston), is known to be an especially skilful fisherman. The places where he secures his strings of big fish, however, have remained a profound secret in spite of the close questioning of other rubber sportsmen. In deference to this interest Mr. Cable decided to open the door of his fisherman's paradise to one representative of the trade who should enjoy for all. Fortunately for the writer the choice fell upon the editor of THE INDIA RUBBER WORLD. The three days' outing, in a beautiful country coupled with Mr. Cable's abundant hospitality, merit the warmest thanks of the trade that went a fishing vicariously.

=The works of the E. Read Goodridge Manufacturing Co., at Newport, R. I., were closed on May 19, and taken in charge by the sheriff, under attachments aggregating $171,000, as follows: Emma B. Dresser, $18,000; Daniel Leroy Dresser, $3000; Dresser & Goodridge, $150,000. The latter are a commission firm doing business at No. 55 White street, New York, and the nature of their claim was at one time reported to be advances on goods. The Newport concern is incorporated under the laws of New Jersey and for several years past has done an extensive business in the manufacture of elastic fabrics. There are reports of family disagreements, resulting in the withdrawal of E. Read Goodridge from the New York firm named, and of the recourse to legal proceedings as a step in the reorganization of the manufacturing business.

=The Mineralized Rubber Co. (New York) protested against the payment of a duty of 35 per cent. on imported rubber-faced printers' blankets, claiming that they were a manufacture of India-rubber, that material exceeding in value the cotton contained in the goods. The protest was sustained by the United States general appraisers at New York, and the goods were admitted under a duty of 25 per cent.

=The people of Franklin, Mass., have been much concerned over the revival of the rubber-shoe industry in that town, since the closing of the Boston Rubber Co.'s mills. Propositions have been considered for inducing Mr. George H. Hood to organize a new company there, but he does not want a small plant, and what he asks of the citizens exceeds their ideas of what they can afford to subscribe. As the United States Rubber Co. are not likely to permit the old shoe factory to be used by a competing concern, the Franklin *Sentinel* concludes that the town has seen the last of the rubber-shoe industry. Already the rubber-workers are beginning to leave the town. Meantime it has been reported that some of the rubber machinery has been sold to a new company organized at Ottawa, Canada, to make rubber clothing.

=Negotiations are in progress for the removal of the works of the Hopedale Elastic Fabric Co. from Hopedale to Milford, Mass., on account of the property now occupied being needed soon for other purposes. It is reported that the present owners, George Draper & Sons, may dispose of their interests.

=The Hon. E. S. Converse, of the Boston Rubber Shoe Co., has been reëlected president of the board of trustees of the Malden Hospital. He recently made another gift, bringing the amount of his contributions to the hospital, since it was established, about six years ago, to about $100,000. A few weeks ago the new building of the Young Men's Christian Association at Malden was dedicated, having cost $100,000, of which Mr. Converse contributed $20,000.

=Mr. Charles L. Johnson, director of sales for the United States Rubber Co., was recently elected to membership in the Lotos Club, New York.

=Mr. B. G. Work, superintendent of the B. F. Goodrich Rubber Co. (Akron, Ohio), is planning a trip to Europe in July.

=Richard H. Pease has been appointed agent for the United States Rubber Co. for the Pacific coast, with stores at San Francisco and Portland, Oregon. This appointment involves the consolidation of the Pacific-coast agencies of the Wales-Goodyear, Woonsocket, and Candee companies, and will place under one management the sale of all United States Rubber Co. goods in that territory. The published reports that the combination would include the San Francisco agency of the Boston Rubber Shoe Co. was without foundation. Mr. Pease went to San Francisco twenty-six years ago in the interest of the Goodyear Rubber Co. (New York), who had maintained a house there since 1865, and has continued since to represent them on the Pacific slope. Several years ago the business of the company in the far west was re-organized in the form of a separate corporation, known as the Goodyear Rubber Co., in California, and another in Oregon, and Mr. Pease is the vice-president and manager of each of the two companies. The addition to their regular business of the selling agency of the United States Rubber Co. gives these houses a commanding position on the coast.

=The Boston Woven Hose and Rubber Co. have increased their capital from $600,000 to $900,000, and it is stated that the usual 2-per cent. quarterly dividend will be paid on the increased amount.

=Theodore A. Dodge has lately issued licenses for the manufacture of bicycle-tires under the Tillinghast patents to the Diamond Rubber Co. (Akron, Ohio); the Peoria Rubber and Manufacturing Co. (Peoria, Ill.); the Kokomo Rubber Co. (Kokomo, Ind.); and the Indiana Rubber and Insulated Wire Co. (Marion, Ind.); the New York Belting and Packing Co. (New York); the Boston Belting Co. (Boston, Mass.); the Revere Rubber Co. (Chelsea, Mass.); the Mechanical Rubber Co. (Chicago, Ill.); the Mechanical Rubber Co, (Cleveland, Ohio); the Spaulding and Pepper Co. Chicopee Falls, Mass.); the Mechanical Fabric Co. (Provideuce, R. Ill.). Nineteen companies are now working under such licenses.

=Temporary stores have been opened in several New England towns during the past few months by the Rosenthal Rubber Co., a concern in the mackintosh trade at No. 26 Parmenter street, Boston. The practice has been to lease a store for a month and to advertise prices so far below the standard as to arouse the resentment of local merchants. On May 23 such a store was opened at Gloucester, Mass., by Samuel B. Rosenthal, who was arrested a few hours later for selling goods without a license. He had made application for a license, however, and only a small fine was imposed. The latest news concerning the company was that H. U. Rosenthal had leased a store at Bangor, Me., for a short time for the sale of mackintoshes at low prices. On May 19 such a store occupied by the Rosenthal company at Whittenton, Mass., was closed after doing business for only a few days.

=The works of the Marvel Rubber Co. (Woonsocket, R. I), belonging to the United States Rubber Co., after having been closed for about six months, were started on May 25, giving employment to about 125 hands.

=Mr. F. C. Anderson has severed his connection with W. H. Salisbury & Co., of Chicago, and become secretary of the W. S. Nott Co., Minneapolis, Minn.

=At the annual meeting of the Manhattan Rubber Mfg. Co. (New York), held recently, all of last year's officers were re-elected.

=The Tyer Rubber Co. had a very fine exhibit of druggists' sundries, hard rubber, and specialties at the industrial exhibit held in connection with the celebration of the 250th birthday of the fine old town of Andover, Mass.

=The Imperial Rubber Co. (George E. Austin, manager), lately of No. 134 Liberty street, New York, have moved into larger quarters next door—No. 132 Liberty. The new store extends back to the next street—to No. 139 Cedar—having a length of 109 feet. The basement, also occupied by the company, has the same dimensions. Mr. Austin has now been conducting this business for five years, finding a good field in the lower west side of New York, in which is located the center of the mill-supply trade. He has made special efforts to secure South American and other foreign orders, and with success. Lately a line of bicycles has been added, this branch of the business being organized under the style of the Imperial Cycle Co.

=The Tyer Rubber Co. (Andover, Mass.) appeared some time since on the market with a line of hard rubber goods manufactured by themselves which they sold in connection with their druggists' sundries. It is gratifying to know that these goods have proved very popular and that their trade in this line is constantly increasing.

=Mr. F. S. George, formerly secretary of the W. S. Nott Co., Minneapolis, Minn., has secured a fine appointment with the New York Belting and Packing Co.

=The leading mechanical papers abroad as well as in the United States have almost without exception copied in full the article on Rubber Conveying Belts by Mr. Thos. Robins, Jr., which appeared in the May INDIA RUBBER WORLD.

=The World Mfg. Co., who are doing a thriving business in mechanical rubber goods and cycles, under manager Sam'l F. Randolph, have moved into finely fitted offices at 80 Reade street.

=Mr. John F. Green, 234 Lafayette avenue, Baltimore, so says the Baltimore *American*, has invented a process for treating asbestos which renders it far more valuable in the arts. A point that will, however, bear further explanation is the use which he says it is to be put to in India-rubber. He claims that it can now be used as an adulterant for rubber, and it is the only substance which will stand vulcanization. That will be rather of a surprise to the rubber manufacturers who have an idea that whiting, zinc, baryta and other metallic oxids and earthy materials, are more or less unaffected by the vulcanizing processes.

=New York Belting & Packing Co., Limited, have removed from 15 Park row to 25 Park place and 22 Murray street, New York city. The new store is located in the center of the business district and is only two blocks away from the old building. The new building is spacious, well-lighted, systematically arranged, and extends entirely through from Park place to Murray street. The office entrance is on Park place, the Murray street side being reserved for shipping purposes.

=A young and enterprising concern on the Pacific coast is the Gorham Rubber Factory, of San Francisco, Cal. This concern was started two and a half years ago by Wm. J. Gorham, who was for fifteen years superintendent of the manufacturing department of the San Francisco branch of the Goodyear Rubber Co. In this new venture he has built up a fine business in the manufacture of mechanical rubber goods, including valves, gaskets, springs, belting, hose, packing, etc.

=Mr. Wm. R. Blowers, formerly with the New York Belting & Packing Co. at Passaic, has been appointed superintendent of the Eastern Rubber Mfg. Co.'s factory at Trenton, N. J.

=C. Edward Murray, treasurer of The Assanpink Rubber Co., has been appointed city clerk of Trenton for another term, this being his second.

=Mr. Wm. L. Raisch, who is well and favorably known in the trade, has been appointed manager of the sales department of the Eastern Rubber Mfg. Co. of Trenton, N. J.

=The Flexible Rubber Blackboard Co., Ltd., is the name of a new corporation that adds one more to the list of rubber plants in Akron, Ohio.

=Mr. J. A. Barnes, superintendent of the tire department of the Indiana Bicycle Co. (Indianapolis, Ind.), has been quite ill with malarial fever but is now recovered and again at work.

=Mr. J. Edwin Davis, treasurer of the Boston Woven Hose & Rubber Co. (Boston), sailed for Europe May 23d for an eight weeks' outing.

=Mr. J. H. Seiberling, founder of the Indiana Insulated Wire & Rubber Co. (Jonesboro, Ind.), was a recent caller at the office of THE INDIA RUBBER WORLD.

=It is rumored that a large corporation with an extensive plant is soon to be formed to exploit the manufacture of hose in 500 foot lengths under the patents of Mr. H. B. Cobb, of the Chicago Electric Works, Wilmington, Del.

=The Home Rubber Co. (Trenton, N. J.) have moved into their new quarters at 80 and 82 Reade street, New York and it is only just to say that the fittings throughout evince the best of taste, and incidentally must have cost a pretty penny. The partitions are of mahogany, the floors richly carpeted, and there are separate offices for salesmen, customers, stenographers, and a handsome private office for the general manager, Mr. J. O. Stokes.

=A Western visitor informs THE INDIA RUBBER WORLD that Mr. A. P. Cochrane is now traveling in the interests of the Trenton Rubber Co.

=Mr. M. Weigert, a well-known shoe manufacturer of Salt Lake City, is now in the East showing a novelty that appears very attractive to the manufacturers of rubber footwear.

=Mr. Homer E. Sawyer, selling agent of the Boston Rubber Shoe Co., has just returned from a delightful trout fishing trip in northern Michigan.

=Capt. Harry E. Converse, general manager of the Boston Rubber Shoe Co., has placed his elegant steam yacht, the *Calypso*, in commission, and takes daily trips on her from Boston to his summer home at Marblehead.

REVIEW OF THE INDIA-RUBBER MARKET.

THE history of the month in the crude-rubber trade has been a record of steady advance in prices until within the past few days, since which time the market has been rather easier. While there have been suggestions that speculative buying was in progress, there is no month in any year that such rumors cannot be heard by those who are listening for them. It is much more likely that the fluctuations in the rubber market for some time past, including all the advances, have resulted from the operation of the simple law of supply and demand. The key to the situation is always to be found in fine Pará rubber, while the changes in prices in other grades, from whatever country, are more or less sympathetic in character.

The stocks of upriver fine at Pará had all been disposed of a month ago, so that an accumulation of rubber at the end of the crop season is out of the question. Islands rubber comes into the market all the year, but the period for the receipt of upriver grades is more limited. Last year, in May, the total movement of upriver fine was but 140 tons, of which 122 tons were shipped direct from Manáos, leaving only 18 tons to be handled at Pará. By the way, the growing indisposition of American manufacturers to buy islands rubber is one of the causes tending to keep up prices, as it narrows the limits of the supply of rubber recognized as really first-class. It is doubtful whether any such intrinsic difference exists between the islands and upriver sorts as to justify the marked preference shown in late years toward the latter.

Another factor in keeping up the prices of the better sorts of rubber is the extensive and continuous growth of the insulated-wire interests. This is a field in which operations are becoming so large as to be surprising to those who have not kept in touch with the situations, and, whatever may be true of some other branches of the rubber industry, it is a fact that only the best gums can be successfully used for insulation purposes. It may be mentioned that the current annual report of one of the English cable-building companies shows the largest earnings on record, although the year's business did not embrace any deep-sea cable work. The good showing was due chiefly to the smaller branches of insulation, the aggregate of which is very large, and mostly of a class in which India-rubber was used in preference to Gutta-percha. It is worth noting, too, that one of the largest wire and cable concerns in this country has lately equipped a rubber plant for the purpose of doing its own rubber-insulation work, which is an indication that the latter must be growing more important. On every hand is heard the explanation that the price of rubber has gone up on account of the activity of the tire trade. This, indeed, has been a potent factor, but the influence upon prices of the demand for rubber for insulation purposes should not be overlooked simply because bicycle- and carriage-tires are more plainly forced upon everybody's attention.

As will be seen from the customary statistical showing below, the receipts of rubber at Pará for the current year continue to break the record, the figures for May having exceeded those of the same month in former years. At the same time, stocks of Pará throughout the world are much lighter than for a long time past at this date. In addition to the arrivals of steamers from Pará at New York, noted in detail in this paper, the *Fluminense* is afloat, having sailed on May 28.

The receipts of Africans have continued in good volume, but naturally prices have been affected by the continued advance in Pará grades. With respect to Lagos rubber, the great production of which has been reported from time to time in this journal, there has been a falling-off in the shipments, attributed to the great mortality among the white residents of the district. It is stated that in some places, even if the rubber were gathered, it could not be shipped, owing to the lack of persons competent to manage affairs. The same conditions are reported from Cape Coast.

The statistical position of Pará rubber in New York and elsewhere is as follows, the figures expressing tons of 1000 kilograms:

	Fine and Medium.	Coarse.	Totals.	Totals. 1895.	Totals. 1894.
Stock, April 30	239	93 =	332	462	1465
Arrivals, May	389	174 =	563	634	336
Aggregating	628	267 =	895	1096	1801
Deliveries, May	402	156 =	558	715	553
Stock, May 31	226	111 =	337	381	1248

	1896.	1895.	1894.
Stock in England, May 31	955	1360	1505
Deliveries in England, May	675	460	550
Pará receipts, May	815	830	810
Stock in Pará, May 31	55	292	465
World's supply May 31 (excluding Caucho)	1877	2554	3883
Pará receipts since July 1	19,945	18,675	18,940

The latest quotations in the New York market are:

Pará, fine, new t a	85		Congo Ball		@40
Pará, fine, old	89		Cameroon Ball		@39
Pará, coarse, new t a	47	@57	Flake and Lumps		@25
Pará, coarse, old	60		Accra Flake		@20
Caucho (Peruvian) strip		@48	Lagos Strips	43	@45
Caucho (Peruvian) ball	52	@53	Lagos Buttons		43
Mangabeira, sheet		@42	Liberian Flake	26	@27
Esmeralda, sausage	49	@	Madagascar, pinky	53	@60
Guayaquil, strip	35	@41	Madagascar, black	43	@44
Nicaragua, scrap	46½	@	Mozambique	35	@52
Nicaragua, sheet	none		Assam	42	@56
Thimbles	34	@35	Borneo	26	@42
Tongues		@39	Gutta-percha, fine grade		1.30
Sierra Leone	25	@52	Gutta-percha, medium		1.00
Benguela		@50	Gutta-percha, hard white		85

PRICES FOR MAY (ISLAND RUBBER).

	1896.		1895.		1894.	
	Fine.	Coarse.	Fine.	Coarse.	Fine.	Coarse.
First	80	46½	72	47	66	43½
Highest	85	49	74	49	66	44
Lowest	80	46½	72	47	65	42½
Last	85	48½	73½	49	65	43

The market for scrap rubber has been weakening during the past month. Buying by grinders has proceeded at a good rate, but in proportion as holders have receded from their recent firm position in the maintenance of prices. Undoubtedly this change has been due to the coming into market of new rubber. Offerings have been particularly free from the west. Late quotations were as follows, though manufacturers were talking of lowering their offers:

	Per Pound.
Old rubber boots and shoes, carloads	4 25
Do. smaller lots	3 75@4.
Rubber car-springs	3. @ 3.12½
Mixed black scrap	per ton 14.00@15.00

In regard to the financial situation, Albert B. Beers, broker in India-rubber and commercial paper (No. 58 William street, New York), advises us as follows:

"During the past month there has been a better demand for rubber paper, and rates have been lower, and about all of prime grade that has been offered has been taken readily by city and out-of-town banks. Quotations are now about 5 @ 5½ per cent. for prime single and double names, and 5½ @ 6½ per cent. for others not so well known, and the latter do not find very ready buyers."

IMPORTS FROM PARA.

THE receipts of India-rubber direct from Pará and Manáos at the port of New York since our last publication are reported in detail below, the figures referring to pounds:

May 12.—By the steamer *Dunstan*, from Manáos and Pará:

	Fine.	Medium.	Coarse.	Caucho.	Total.
New York Commercial Co.	163,200	28,600	37,200	83,700=	312,700
Lawrence Johnson & Co.	31,800	7,100	29,800	4,000=	72,700
Reimers & Meyer	36,100	4,600	26,600	=	67,300
Shipton Green			17,900	=	17,900
P. Lima	2,800	700	3,700	=	7,200
Sears & Co.	6,600	400		=	7,000
George G. Cowl			6,000	=	6,000
Otto G. Mayer & Co.			3,600	=	3,600
Totals	240,500	41,400	124,800	87,700=	494,400

May 20.—By the steamer *Hubert*, from Manáos and Pará:

Reimers & Meyer	41,300	9,300	37,400	=	88,000
New York Commercial Co.	27,300	4,500	25,300	2,000=	59,100
Lawrence Johnson & Co.	23,900	3,400	12,700	=	40,000
Otto G. Mayer & Co.			29,400	=	29,400
Shipton Green	15,400	1,400	4,500	=	21,300
P. Lima	3,200	200	2,700	=	6,100
Joseph Banigan		1,800	1,000	=	2,800
Totals	111,100	20,600	113,000	2,000=	24,700

May 30.—By the steamer *Grangense*, from Pará:

New York Commercial Co.	25,000	3,200	14,700	=	42,900
Lawrence Johnson & Co.	18,200	3,900	10,600	=	32,700
Reimers & Meyer	11,000	2,200	13,600	=	26,800
P. Lima	1,600		1,400	=	3,000
Otto G. Mayer & Co.			3,600	=	3,600
G. Amsink & Co.	500		600	=	1,100
Total	56,300	9,300	44,500	=	110,100

	1896.	1895.
January Imports from Pará	2,718,300	2,869,500
February Imports	1,945,900	2,274,400
March Imports	2,786,300	3,611,700
April Imports	1,941,500	2,156,400
May Imports	1,527,800	1,651,400

PARA IMPORTS VIA EUROPE.

May 4.—By the steamer *Georgic*, from Liverpool:

George A. Alden & Co. (Fine)	6,200
Sgal & Co. (Fine)	7,500

May 7.—By the steamer *Germanic*, from Liverpool:

Otto G. Mayer & Co. (Fine)	11,300

May 9.—By the steamer *Etruria*, from Liverpool:

George A. Alden & Co. (Fine)	70,000
George A. Alden & Co. (Coarse)	18,000
Reimers & Meyer (Caucho)	22,000

May 10.—By the steamer *Sorrento*, from Havre:

Otto G. Mayer & Co. (Fine)	22,000
Otto G. Mayer & Co. (Medium)	11,000

May 13.—By the steamer *Teutonic*, from Liverpool:

Albert T. Morse (Fine)	15,500

May 16.—By the steamer *Campania*, from Liverpool:

Sgal & Co. (Coarse)	5,500

May 22.—By the steamer *Britannic*, from Liverpool:

Albert T. Morse (Fine)	18,000
Albert T. Morse (Medium)	5,300

May 23.—By the steamer *Umbria*, from Liverpool:

Reimers & Meyer (Fine)	35,000
Reimers & Meyer (Medium)	3,000
Reimers & Meyer (Coarse)	5,000

May 29.—By the steamer *Persia*, from Havre:

Otto G. Mayer & Co. (Fine)	15,000
Otto G. Mayer & Co. (Medium)	7,100

May 29.—By the steamer *Lucania*, from Liverpool:

Reimers & Meyer (Coarse)	4,500

OTHER NEW YORK ARRIVALS.

BELOW will be found in detail the imports at New York during May, 1896, of India-rubber from Mexico, Central America, and South America, other than Pará grades; also, arrivals at New York of African and East Indian sorts:

CENTRALS.

	POUNDS.
MAY 1.—By the *Finance*=Colon:	
G. Amsinck & Co.	6,100
W. Loaiza & Co	1,623
Piza Nephews & Co.	688
Total	8,411
MAY 2.—By the *Yucatan*=Mexico:	
H. Marquardt & Co.	5,000
Fred. Probst & Co.	1,200
Flint, Eddy & Co.	1,000
E. Steiger & Co	500
H. A. Forrest & Co.	500
Total	8,200
MAY 4.—By the *Louisiana*=New Orleans:	
W. H. Crossman & Bro	2,000
F. H. Robinson	1,500
Total	3,500
MAY 4.—By the *Adirondack*=Greytown:	
Andreas & Co.	6,000
A. P. Strout	5,000
K. Mandell & Co	400
For Glasgow	400
Total	11,800
MAY 6.—By the *Saratoga*=Mexico:	
Graham, Hinckley & Co	1,500
H. W. Peabody & Co.	500
J. W. Wilson & Co	300
Hughes & Co.	200
Total	2,500
MAY 9.—By the *Wordsworth*=Bahia:	
Reimers & Meyer	5,100
MAY 9.—By the *Amrum*=Colombia:	
A. M. Capen's Sons	3,000

MAY 12.—By the *Alliance*=Colon:

I. Brandon & Bros	9,147
Hemingway & Brown	7,000
Herzel, Feltman & Co	6,703
Roldan & Van Sickle	6,224
G Amsinck & Co	5,646
W. R. Grace & Co	3,480
Dumarest & Co	2 357
J. Aparicio & Co	1,745
G. R. Cottrell & Co	1,329
Munoz & Espriella	1,332
Frame, Alston & Co	1,200
H. Marquardt & Co	991
Eggers & Heinlein	530
De Sola, Hobo & Co	530
A. M. Capen's Sons	264
J. M. Ceballos & Co	143
Total	48,612

MAY 12.—By the *Alleghany*=Cartagena:

D. A. De Lima & Co	1,500
A. M. Capen's Sons	1,500
Punderford & Co	1,000
Kunhardt & Co	1,000
Total	5,000

MAY 13.—By the *Knickerbocker*=New Orleans:

Albert T. Morse	8,000

MAY 13.—By the *Harald*=Bluefields:

Albert T. Morse	16,000
W. H. Crossman & Bro	8,000
Total	24,000

MAY 13.—By the *Anerley*=Trinidad:

Flint, Eddy & Co	1,000

MAY 14.—By the *Seguranca*=Mexico:

J. W. Wilson & Co	1,200
E. Steiger & Co	1,200
L. Monjo, Jr., & Co	1,000
N. N. Tibbals	1,000
H. A. Forrest & Co	500
H. Marquardt & Co	500
Total	5,400

MAY 17.—By the *Taormina*=Hamburg:

Sgal & Co	11,800

MAY 18.—By the *Gwent*=Greytown:

G. Amsinck & Co	20,000
Munoz & Espriella	15,000
A. P. Strout	7,500
W. R. Grace & Co	500
Total	43,000

MAY 18.—By the *Mohawk*=London:

H. H. Smythe	1,500

MAY 19.—By the *Athos*=Greytown:

Andreas & Co	8,000
Hoadley & Co	1,000
Total	9,000

MAY 21.—By the *Advance*=Colon:

Hemingway & Browne	7,000
Munoz & Espriella	6,279
Roldan & Van Sickle	4,000
I. Brandon & Bros	3,600
A. M. Capen's Sons	3,480
Piza, Nephews & Co	3,379
J. M. Ceballos & Co	3,077
A. Santos & Co	2,301
G. Amsinck & Co	1,690
Dumarest & Co	1,130
W. Loaiza & Co	857
J. Aparicio & Co	502
A. P. Strout	452
Jose Menendez & Co	400
Fred Probst & Co	370
H. Marquardt & Co	186
Total	38,703

MAY 25.—By the *Louisiana*=New Orleans:

Albert T. Morse	2,500

MAY 27.—By the *Alene*=Cartagena:

D. A DeLima & Co	3,000
Kunhardt & Co	1,500
Punderford & Co	1,500
J. M. Ceballos & Co	1,000
H. W. Peabody & Co	500
Total	7,500

MAY 27.—By the *Yumuri*=Mexico:

L. Monjo, Jr., & Co	1,000
J. Menendez & Co	1,000
E. Steiger & Co	700
H. A. Forrest & Co	300
Total	3,000

MAY 29.—By the *El Paso*=New Orleans:

Albert T. Morse	6,000

MAY 29.—By the *Persia*—Hamburg:

Sgal & Co	3,400

Total Centrals for May	260,926
Total for April	175,511
Total for March	167,924
Total for February	297,762
Total for January	339,937

AFRICANS.

MAY 1.—By the *Lucania*=Liverpool:

	POUNDS.
Reimers & Meyer	17,000
Otto G. Mayer & Co	11,800
Total	28,800

MAY 4.—By the *Georgic*=Liverpool:

George A. Alden & Co	22,200
Sgal & Co	5,700
Total	27,900

MAY 4.—By the *Peninsular*=Lisbon:

George A. Alden & Co	26,400
Otto G. Mayer & Co	11,300
Reimers & Meyer	4,500
Total	42,200

MAY 6.—By the *British Queen*=Antwerp:

George A. Alden & Co	38,000
Sgal & Co	500
Total	38,500

MAY 8.—By the *Patria*=Hamburg:

George A. Alden & Co	15,000
Otto G. Mayer & Co	11,300
Total	26,300

MAY 9.—By the *Paris*=Southampton:

George A. Alden & Co	11,300
Windmuller & Roelker	7,500
Total	18,800

MAY 9.—By the *Ontario*=London:

George Ropes	1,500

MAY 9.—By the *Etruria*=Liverpool:

Reimers & Meyer	27,000
Sgal & Co	16,000
George A. Alden & Co	11,200
Total	54,200

MAY 11.—By the *Spaarndam*=Rotterdam:

George A. Alden & Co	175,060

MAY 13.—By the *Teutonic*=Liverpool:

William A. Brown & Co	30,000

MAY 16.—By the *Campania*=Liverpool:

Reimers & Meyer	40,000
George A. Alden & Co	25,000
Sgal & Co	1,500
Total	66,500

MAY 21.—By the *St. Cuthbert*=Antwerp:

George A. Alden & Co	18,500

MAY 22.—By the *Britannic*=Liverpool:

George A. Alden & Co	10,500

MAY 23.—By the *Umbria*=Liverpool:

Reimers & Meyer	47,000
George A. Alden & Co	16,300
Total	63,300

MAY 23.—By the *Phoenicia*=Hamburg:

George A. Alden & Co	25,000
Albert T. Morse	11,000
Reimers & Meyer	3,900
Total	39,900

MAY 27.—By the *Majestic*=Liverpool:

George A. Alden & Co	32,400

MAY 28.—By the *Berlin*=Southampton:

Geo. A. Alden & Co	8,300

MAY 29.—By the *Lucania*=Liverpool:

George A. Alden & Co	11,200

Total Africans for May	693,800
Total for April	315,300
Total for March	775,100
Total for February	316,300
Total for January	424,900

EAST INDIAN.

MAY 1.—By the *America*=London:

	POUNDS.
Reimers & Meyer	3,800

MAY 4.—By the *Georgic*=Liverpool:

George A. Alden & Co	1,800
R. G. Winny	800
Total	2,600

MAY 9.—By the *Paris*=Southampton:

Reimers & Meyer	15,000
Windmuller & Roelker	2,500
Total	17,500

MAY 11.—By the *Mississippi*=London:

Gutta Percha and Rubber Manufacturing Co.	2,000

MAY 15.—By the *Michigan*=London:

George A. Alden & Co—(Pontianak)	55,700

MAY 15.—By the *St. Louis*=Southampton:

George A. Alden & Co	11,100

MAY 17.—By the *Prussia*=Hamburg:

Robert Soltan & Co	11,300

MAY 23.—By the *New York*=Southampton:

Otto G Mayer & Co	2,100

MAY 25.—By the *Cevic*=Liverpool:

George A. Alden & Co	4,800

MAY 25.—By the *Mobile*=London:

Reimers & Meyer	17,600

MAY 31.—By the *Queen Olga*=Singapore:

George A. Alden & Co (Pontianak)	205,000
Reimers & (Meyer Pontianak)	156,000
Reimers & Meyer	20,000
Robert Soltan & Co	27,000
Carleton & Moffat (Pontianak)	40,000
Total	448,000

Total East Indian for May	576,500
Total for April	522,400
Total for March	310,100
Total for February	265,600
Total for January	315,400

RECAPITULATION.

	POUNDS.
Pará—direct imports	1,527,800
Pará—via Europe	281,200
Centrals	260,926
Africans	693,800
East Indian	448,000
Total at New York for May	3,171,726
Total for April	3,271,311
Total for March	4,192,224
Total for February	2,840,862
Total for January	2,823,537

BOSTON ARRIVALS.

MAY 4.—By the *Bostonian*=London:

	POUNDS.
George A. Alden & Co.—Africans	6,390

MAY 4.—By the *Pavonia*=Liverpool:

Reimers & Meyer—Africans	6,000

MAY 12.—By the *Catalonia*=Liverpool:

Sgal & Co.—Africans	2,500

MAY 12.—By the *Kansas*=Liverpool:

Reimers & Meyer—Africans	19,500

MAY 19.—By the *Victorian*=Liverpool:

George A. Alden & Co.—Africans	8,000

MAY 22.—By the *Borderer*=Nicaragua:

W. H. Crossman & Bro.—Nicaragua	10,000

MAY 26.—By the *Michigan*=Liverpool:

George A. Alden & Co.—Africans	8,500

MAY 29.—By the *British Empire*=London:

George A. Alden & Co.—East India	9,000
Total at Boston for May	69,890
Total for April	122,050
Total for March	209,601
Total for February	210,000
Total for January	72,800

NEW ORLEANS.

MAY.

	POUNDS.	VALUE.
From Honduras	1,924	$ 854
From Nicaragua	31,890	11,937
Total	33,814	$12,791

ALPHA Fine Rubber Specialties.

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Samples and Quotations on application.

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Mention the India Rubber World when you write. Correspondence Solicited.

To Bicycle Manufacturers.

The proprietors of a large rubber factory, well located and equipped, would like to communicate with bicycle manufacturer, or parties contemplating making tires, with a view of manufacturing same for them. Address,

L. A.,

Care of THE INDIA RUBBER WORLD.

Free Want Department.

WANTED.—First-class perforated mat puncher. One who understands the business thoroughly. To same good salary will be paid. Address H., care of INDIA RUBBER WORLD. (June.)

COMPETENT pneumatic tire maker desires position as foreman with tire manufacturer. Address PNEUMATIC, care of INDIA RUBBER WORLD. (June.)

WANTED.—Second-hand rubber grinding mills. Address H. E. R., care of INDIA RUBBER WORLD. (June.)

WANTED.—By a manufacturer of rubber goods, salesman experienced in selling bicycle tires One having knowledge of rubber manufacturing in all its branches preferred. Address, giving references, MANUFACTURER, care of INDIA RUBBER WORLD. (June.)

A COMPETENT and reliable salesman residing in Canada wants a line of rubber boots, shoes, and clothing. Is thoroughly acquainted with the country from Quebec to Calgary, N. W. T. Only fine lines wanted. Address CANADA, care of INDIA RUBBER WORLD. (June.)

WANTED.—A situation as salesman with a good responsible house in the rubber clothing business, druggists' sundries, or rubber boots and shoes, by a young man of fifteen years' experience and who thoroughly understands the business. Address W. H., care of INDIA RUBBER WORLD. (June.)

WANTED.—To correspond with parties who make a business of grinding hard rubber scrap for use in compounding. Address M. W. S., care of INDIA RUBBER WORLD. (June.)

WANTED.—A rubber salesman who has had experience with the electrical trade, especially with users of hard rubber cells. Address M. F., care of INDIA RUBBER WORLD. (June.)

WANTED.—A man competent to add a full line of mechanical rubber goods to a factory already equipped with the best machinery, doing a large business in other lines. Address S. H. J., care of INDIA RUBBER WORLD (June.)

WANTED.—A position as a bicycle tire maker by a young man who is industrious, competent, and of good habits. Address "Worker," care of INDIA RUBBER WORLD. (June.)

WANTED.—To sell or to have manufactured on royalty a special compound, the property of the inventor, for use in place of hard rubber valves, &c. Will stand superheated steam. Address GERMAN, care of INDIA RUBBER WORLD. (June.)

AN ENERGETIC SALESMAN, 26 years of age seeks employment in rubber store; experienced in garment department; highest testimonial from a first-class firm. Address WATERPROOF, care of INDIA RUBBER WORLD. (May.)

A YOUNG MAN, experienced in selling bicycle tires, desires a position with some good house manufacturing a line of these goods. Address CHANDLER, care of INDIA RUBBER WORLD. (May.)

FOR SALE.—Vulcanizer 42"×25' with carriage, rails, and asbestos covering, cheap. Address SNED, care of INDIA RUBBER WORLD. (May.)

WANTED.—A man who thoroughly understands the manufacture of reclaimed rubber both mechanical and chemical. Address No. 80, care of INDIA RUBBER WORLD.

WANTED.—One steam vulcanizer, 12 ft. × 36 in. Address, giving full particulars and price. Tire, care of INDIA RUBBER WORLD. (May.)

HARD RUBBER (ebonite) or general rubber goods.—Advertiser is shortly commencing business in London and is prepared to stock and push first class manufacturers goods; has extensive British connection and excellent references. Address M. Maclean, Lorne House, Hornsey, London. (May.)

WANTED.—Salesman with 10 years experience desires a line of rubber boots and shoes, mackintoshes and rubber clothing to sell on commission in Virginia; three years with the Colchester Rubber Co. I will consider an offer on novelties. Best of reference and bond if required. Address W. S. Buchanan, Oakland P. O., Louisa Co., Virginia. (May.)

CHEMIST, American, with German diploma desires position in rubber factory; is at present superintendent of similar establishment in Germany. Address C. Allen, 120 E. 86th st., New York. (May.)

WANTED.—Superintendent for mechanical rubber goods factory in the Middle States. Address MIDDLE, care of INDIA RUBBER WORLD. (May.)

WANTED.—A line of rubber goods or mechanical specialties for the markets of France, Belgium and Switzerland. The advertiser has had eleven years experience in those lines and has an established trade. The best of references given. Address, FRANCE, care of INDIA RUBBER WORLD. (May.)

WANTED.—By a young man with over six years' experience in large rubber house, a position as salesman. References A 1. Address, Mortimer, care of S. Emberson, 59 West 42d St., New York City. (April.)

WANTED.—A New York house holding the agency for a popular wheel in New England and the Middle States would like a full line of bicycle sundries to sell to trade already established by them. Address, N. Y., care of INDIA RUBBER WORLD. (April.)

FOR SALE.—Moulds, dies, tools, patterns, electrotypes, etc., of a drug sundries plant, all in first-class order. Address, C. B. D., 830 President St., Brooklyn. (April.)

A MAN experienced in the manufacture and sale of vulcanite and chemical emery wheels desires a permanent situation. Address, VULCANITE, care of INDIA RUBBER WORLD. (April.)

WANTED.—A 50-foot hose machine in good order. Address at once, stating price, F. W. H., INDIA RUBBER WORLD office. (April.)

A YOUNG MAN experienced in the manufacture of all kinds of hose desires a position as foreman; is also a perforated mat cutter and designer. Address, E. X., INDIA RUBBER WORLD office. (April.)

WANTED.—A man experienced in the manufacture of tires. Address, BICYCLE, care of INDIA RUBBER WORLD. (April.)